Commonwealth of Kentucky
Natural Resources and Environmental Protection Cabinet
Department for Environmental Protection
Division for Air Quality
803 Schenkel Lane
Frankfort, Kentucky 40601
(502) 573-3382

AIR QUALITY PERMIT

Issued under 401 KAR 52:020

Permittee Name:	**Sumitomo Electric Magnet Wire America, Inc.**
Mailing Address:	**909 Industrial Drive, Edmonton, Kentucky 42129**
Source Name:	**Sumitomo Electric Magnet Wire America, Inc.**
Mailing Address:	**909 Industrial Drive** **Edmonton, Kentucky 42129**
AFS Plant ID #:	**21-169-00008**
SIC Code:	**3357**
Permit Number:	**V-00-034 (Revision 2)**
Original Log Number:	**E817**
Revision (2) Log Number:	**54685**
Original Application Complete Date:	**February 15, 1997**
Revision Application (1) Complete Date	**January 3, 2001**
Revision Application (2) Complete Date:	**September 17, 2002**
Permit Type:	**Federally-Enforceable Part 70**
Review Type:	**Title V, Synthetic Minor**
Regional Office:	**1508 Westen Avenue, Bowling Green, KY 42104**
County:	**Metcalfe**
Issuance Date:	**November 28, 2000**
Revision (1) Date:	**April 20, 2001**
Revision (2)	**March 18, 2003**
Expiration Date:	**November 28, 2005**

John S. Lyon, Director
Division for Air Quality

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Rev #	Permit type	Log #	Complete Date	Issuance Date	Summary of Action
----	Initial Issuance	F817	2/15/97	11/28/00	Title V, Synthetic minor
1	Significant Revision	53405	1/3/01	4/20/01	Construction of two enameling top coat machines
2	Significant Revision	54685	9/10/02	03/18/03	Construction of EP18 through EP31.

SECTION A - PERMIT AUTHORIZATION

Pursuant to a duly submitted application which was determined to be complete on September 17, 2002

the Kentucky Division for Air hereby authorizes the operation of the equipment described herein in accordance with the terms and conditions of this permit. This permit has been issued under the provisions of Kentucky Revised Statutes Chapter 224 and regulations promulgated pursuant thereto.

The permittee shall not construct, reconstruct, or modify any affected facilities without first having submitted a complete application and receiving a permit for the planned activity from the permitting authority, except as provided in this permit or in 401 KAR 52:020, Title V Permits.

Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by this Cabinet or any other federal, state, or local agency.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

EP01 and EP02 (EV-01 and EV-02) These emission points are Medium Enameling Magnet Wire Machines.

Copper wire enters each of these machines, is drawn through an applicator and dies so that insulation is applied, passes through a curing zone and a cooling zone (in this order), either returns to the applicator or continues to the winding portion of the machine (depending on the number of coats desired and applied), and finally is wound for shipment.

EV-01 consists of 6 lines or heads. Heads 01 and 06 may coat up to 2 wires each by passing the wires through the applicator multiple times. Heads 02 and 05 may coat up to 3 wires each by passing the wires through the applicator multiple times. Heads 03 and 04 may coat up to 5 wires each by passing the wires through the applicator multiple times. The combined heads of EV-01 can produce a total of 20 insulated wires if fully utilized.

EV-02 consists of 4 lines or heads where 5 wires (20 total wires) may make multiple passes through the head to produce insulated wire.

The machines are designed to apply, cure, and cool the wire on a plane that is roughly perpendicular to the facility's floor.

Catalysts are utilized in each curing zone to reduce emissions and generate heat for the process. (Prior to permit issuance, the catalysts in these machines were assumed to have a 93.8% VOC destruction efficiency due to a stack test at EV-04.)

Electric heaters are utilized to generate any additional heat required in the curing zones.

EV-01 and EV-02 have a maximum throughput rate of 33 m/min for 1.20 mm diameter wire.

Wires with smaller diameters will have higher maximum throughput rates on all of these machines.

Each head of each machine is exhausted to the ambient air through an independent stack.

EV-01 construction commenced: October 1989.

EV-02 construction commenced: September 1991.

APPLICABLE REGULATIONS:

Regulation **401 KAR 59:190**, New insulation of magnet wire operations, exempts each affected facility in a county designated attainment commenced after June 29, 1979 but prior to June 24, 1992 except that control devices and procedures required at the time the facility commenced shall continue to be operated and maintained.

Regulation **401 KAR 59:010**, New process operations applicable to each affected facility associated with a process operation which is not subject to another emission standard with respect to particulates in Chapter 59 of 401 KAR commenced on or after July 2, 1975.

Operating Limitations:

401 KAR 59:190

The following limits shall apply to assure compliance with Emission Limitation #1.

1. Each curing zone shall be operated such that the minimum inlet temperature to the catalyst is at least 626° F.
2. Each curing zone shall be operated such that the maximum outlet temperature from the catalyst is no more than 1200° F.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Operating Limitations (Continued):

401 KAR 59:190

3. Each head shall be operated only if each of the catalysts used in the head has been operated less than 6,000 hours from initial installation, regeneration by a catalyst reactivation service vendor, or catalyst replacement.

4. Each head shall be operated only when the enclosure around the applicator is in a configuration that has been used when demonstrating that airflow near the applicator is into the oven. (Attention should be focused on enclosure doors and changes to other openings in the enclosures.)

5. Each head shall be operated only if airflow near the applicator enclosure is into the enclosure.

Compliance Demonstration Method:

Initially this may be demonstrated quantitatively or qualitatively. Quantitative methods such as Method 204 will demonstrate compliance if less than 5% of the VOC input is exhausted through temporary total enclosures utilized with the applicator enclosure. Qualitative demonstration is much more difficult to define but the degree of control is intended to be equivalent to a 5% or less loss.

Quantitative measurement of line capture can be accomplished by measuring the VOCs input at the applicator, building temporary total enclosures around the applicator enclosure of a head, assuming 100% of the VOC emissions exit through the curing zone stacks or the temporary total enclosures, and performing tests to determine VOC emissions from the curing zone stacks and the temporary total enclosures.

Qualitative demonstration can be accomplished if solvent odors are minimal around each applicator enclosure and smoke from a smoke tube is drawn into the applicator enclosure. Given the odor threshold of the solvents used in the coatings and the smoke observations, capture equivalent to a 5% loss will be assumed. However, care should be exercised when observing smoke being drawn into the applicator enclosure. If possible, smoke should be puffed around the perimeter of openings in the applicator enclosure (ignoring holes smaller than 10 in^2), smoke should not linger for more than a few seconds, and nearly all of the smoke should enter the applicator enclosure.

Subsequent demonstration is intended to be done by the following methods for each batch of wires ran on each head but an equivalent method approved by the division may be acceptable. By measuring air velocity into the applicator enclosure during initial demonstration, ongoing compliance can be accomplished through measurement of air velocity at the same locations as air velocity measurements during initial compliance. If all air velocities are > 0.90 x the initial air velocity measurements, capture can be demonstrated to be equivalent to the initial demonstration through documentation of the air velocity measurements for each batch of wires ran on each head. Alternatively, the qualitative initial demonstration above may be performed and documented for each batch of wires ran on each head.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Operating Limitations (Continued):

401 KAR 59:010

The following limit shall apply to assure compliance with Emission Limitations #2 and #3.

6. Machines shall be operated and maintained consistent with good air pollution control practices.

PSD VOC Synthetic Minor Limitation

See Section D, Operating Limitation #1.

PSD Particulate Matter Synthetic Minor Limitation

See Section D, Operating Limitation #1.

Emission Limitations:

401 KAR 59:190

1. For these emission points, Section 2(2) requires controls (that were required at the time of construction or modification) to be operated and maintained. The permittee was and shall continue to be required to limit VOC discharge into the atmosphere to a maximum of 15% by weight of the total VOCs input into each coating line or head (including mixing and cleanup).

Compliance Demonstration Method:

Total VOCs input into each line over a 24-hour period shall be controlled so that no more than 15% by weight is emitted into the atmosphere. Use the following equations to demonstrate weight percent of VOCs emitted.

Weight percentage of VOCs emitted = VOC emitted / VOC input

Where:

VOC input = S (lbs of coating input to the line x VOC weight % of coating)
+ S (lbs of solvent input to the line x VOC weight % of solvent)
+ S (lbs of cleaning solution used for the line x VOC weight % of cleaning solution)

VOC emitted = (100% - line capture of VOCs x line control device destruction efficiency)
x **[**S (lbs of coating input to the line x VOC weight % of coating)
+ S (lbs of solvent input to the line x VOC weight % of solvent)**]**
+ (100% - cleaning room capture of VOCs x cleaning room control device destruction efficiency)
x S (lbs of cleaning solution used for the line x VOC weight % of cleaning solution)

Line capture of VOCs is either assumed to be 95% when Operating Limitation #5 is demonstrated qualitatively or as determined through quantitative measurements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Limitations (Continued):

401 KAR 59:190

Compliance Demonstration Method (Continued):

Line control device destruction efficiency has been tested at EV-04 and assuming 95% capture efficiency, destruction efficiency was demonstrated to be 93.8% (see the statement of basis for raw data used in destruction efficiency determination or future recalculations without an assumed capture efficiency). Assuming that regenerated catalyst activity is always equal or lower for future testing, up to date test results shall be used in the above emission calculation.

Cleaning room capture of VOCs has been assumed to be 100%.

Cleaning room control device destruction efficiency is assumed to be 0.0% unless tested. And,

Lbs of cleaning solution used for the line = total lbs of cleaning solution used
x **[**S (lbs of coating input to the line x VOC weight % of coating)
+ S (lbs of solvent input to the line x VOC weight % of solvent)**]**
/ **[**S (lbs of coating input to all lines x VOC weight % of coating)
+ S (lbs of solvent input to all lines x VOC weight % of solvent)**]**.

401 KAR 59:010

2. Section 3(1) limits visible emissions from each stack to less than 20% opacity.

3. Section 3(2) limits emissions of particulate matter from each stack to a maximum of 2.34 lbs/hr.

Compliance Demonstration Method:

If deemed necessary, the Cabinet shall require testing in accordance with 40 CFR 60 Appendix A, Methods 9 and 5, respectively. Otherwise, compliance with Operating Limitation #6 may be used to demonstrate compliance.

PSD VOC Synthetic Minor Limitation

See Section D, Emission Limitation #1.

PSD Particulate Matter Synthetic Minor Limitation

See Section D, Emission Limitation #1.

Testing Requirements:

401 KAR 59:190

See Section D, Testing Requirements for EV-01, EV-02, EV-03, and EV-04.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Specific Monitoring Requirements:

401 KAR 59:190

The following is required as part of compliance demonstration for Operating Limitations #1 through #5.

1. Inlet temperature to the each catalyst shall be monitored continuously when in operation.

2. Outlet temperature from each catalyst shall be monitored continuously when in operation.

3. Hours of operation for each line shall be monitored daily.

4. Configuration of applicator enclosures shall be monitored daily.

5. Monitoring described in the compliance demonstration method for Operating Limitation #5 shall be performed for each batch of wires ran on each head.

Specific Record Keeping Requirements:

401 KAR 59:190

The following is required in accordance with Section F #2 of this permit as part of compliance demonstration for Operating Limitations #1 through #5 and Emission Limitation #1.

1. Inlet temperature to each catalyst shall be recorded at least once per 8-hour shift and if a batch of wires is ran in a shorter period of time. Inlet temperature to each catalyst shall be recorded during the time the batch is processed.

2. Outlet temperature from each catalyst shall be recorded at least once per 8-hour shift and if a batch of wires is ran in a shorter period of time. Outlet temperature from each catalyst shall be recorded during the time the batch is processed.

3. Hours of operation prior to catalyst regeneration or replacement shall be recorded for each line.

4. All operating configuration changes of applicator enclosures (including open doors) shall be recorded when monitored (configuration changes occurring when the lines aren't in operation should not be recorded). Additionally, maintenance and the operating condition (good, slow, or not functioning) of door closing assistance mechanisms shall be recorded when performed and weekly, respectively.

5. All observations resulting from Specific Monitoring Requirement #5 shall be recorded and include a description of the monitoring, equipment used, location relative to the applicators and applicator enclosure opening of measurements or smoke, and any qualitative or quantitative measurements taken.

6. All results of Testing Requirements shall be recorded.

7. The regenerated catalyst activity of each curing zone shall be noted using reported performance characteristics furnished by the reactivation service vendor and tracked through serial numbers or other definitive means.

8. The amount and type of coating or solvent (including exempt compounds) used at each point of application shall be recorded daily.

9. The VOC content of each coating or solvent shall be recorded.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Specific Record Keeping Requirements (Continued):

401 KAR 59:190

10. The amount of cleanup or washup solvent (including exempt compounds) used and the VOC content of each shall be recorded daily.

11. The lbs of cleaning solution used for each line shall be calculated and recorded daily.

12. The weight percentage of VOCs emitted shall be calculated and recorded daily.

401 KAR 59:010

The following is required as part of compliance demonstration for Emission Limitations #2 and #3.

13. All maintenance on the above referenced machines shall be recorded.

PSD VOC Synthetic Minor Limitation

See Section D, Specific Record Keeping Requirements.

PSD Particulate Matter Synthetic Minor Limitation

See Section D, Specific Record Keeping Requirements.

Specific Reporting Requirements:

Deviations from permit requirements (including emissions in excess of permit limits from startups, shutdowns, and malfunctions) shall be reported in accordance with Section F #6 of this permit.

401 KAR 59:190

The following is required in accordance with Section F #5 of this permit as part of compliance demonstration for Emission Limitation #1.

1. Minimum catalyst inlet temperature for each curing zone shall be reported for each six month period.

2. Maximum catalyst outlet temperature for each curing zone shall be reported for each six month period.

3. Regenerated catalyst activity shall be reported for each curing zone if regeneration results are determined during the six month period.

4. All operating configuration changes of applicator enclosures (including open doors) shall be reported for the six month period (report none if no configuration changes have been noted). Additionally, report the operating condition of door closing assistance mechanisms and maintenance performed on the mechanisms.

5. All observations of insufficient capture for each application area shall be reported for the six month period (report none if all capture observations are adequate).

6. The maximum weight percentage of VOCs emitted shall be reported for each line during the six month period.

PSD VOC Synthetic Minor Limitation

See Section D, Specific Reporting Requirements.

PSD Particulate Matter Synthetic Minor Limitation

See Section D, Specific Reporting Requirements.

Specific Control Equipment Operating Conditions:

Catalytic oxidation systems are contained inside of the enameling ovens. Refer to Operating Limitations #1 - #5 for control equipment operating conditions.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE

REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

EP03 and EP04 (EV-03 and EV-04) These emission points are Medium Enameling Magnet Wire Machines.

Copper wire enters each of these machines, is drawn through an applicator and dies so that insulation is applied, passes through a curing zone and a cooling zone (in this order), either returns to the applicator or continues to the winding portion of the machine (depending on the number of coats desired and applied), and finally is wound for shipment.

Each machine consists of 4 lines or heads where 5 wires (20 total wires on each machine) may make multiple passes through the head to produce insulated wire.

The machines are designed to apply, cure, and cool the wire on a plane that is roughly perpendicular to the facility's floor.

Catalysts are utilized in each curing zone to reduce emissions and generate heat for the process. [Prior to permit issuance, EV-04 demonstrated a VOC destruction efficiency of 93.8% (assuming 95% capture) and the catalysts in EV-03 have been assumed to have an equivalent VOC destruction efficiency due to the similarity in the machines.]

Electric heaters are utilized to generate any additional heat required in the curing zones.

EV-03 has a maximum throughput rate of 42 m/min for 1.20 mm diameter wire.

EV-04 has a maximum throughput rate of 46 m/min for 1.20 mm diameter wire.

Wires with smaller diameters will have higher maximum throughput rates on all of these machines.

Each head of each machine is exhausted to the ambient air through an independent stack.

EV-03 construction commenced: May 1995.

EV-04 construction commenced: December 1996.

APPLICABLE REGULATIONS:

Regulation **401 KAR 59:190**, New insulation of magnet wire operations, applies to each affected facility part of a major source in a county designated attainment commenced on or after June 24, 1992.

Regulation **401 KAR 59:010**, New process operations applicable to each affected facility associated with a process operation which is not subject to another emission standard with respect to particulates in Chapter 59 of 401 KAR commenced on or after July 2, 1975.

Operating Limitations:

401 KAR 59:190

The following limits shall apply to assure compliance with Emission Limitation #1.

1. Each curing zone shall be operated such that the minimum inlet temperature to the catalyst is at least 626° F.
2. Each curing zone shall be operated such that the maximum outlet temperature from the catalyst is no more than 1200° F.
3. Each head shall be operated only if each of the catalysts used in the head has been operated less than 6,000 hours from initial installation, regeneration by a catalyst reactivation service vendor, or catalyst replacement.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Operating Limitations (Continued):

401 KAR 59:190

4. Each head shall be operated only when the enclosure around the applicator is in a configuration that has been used when demonstrating that airflow near the applicator is into the oven. (Attention should be focused on enclosure doors and changes to other openings in the enclosures.)

5. Each head shall be operated only if airflow near the applicator enclosure is into the enclosure.

Compliance Demonstration Method:

Initially this may be demonstrated quantitatively or qualitatively. Quantitative methods such as Method 204 will demonstrate compliance if less than 5% of the VOC input is exhausted through temporary total enclosures utilized with the applicator enclosure. Qualitative demonstration is much more difficult to define but the degree of control is intended to be equivalent to a 5% or less loss.

Quantitative measurement of line capture can be accomplished by measuring the VOCs input at the applicator, building temporary total enclosures around the applicator enclosure of a head, assuming 100% of the VOC emissions exit through the curing zone stacks or the temporary total enclosures, and performing tests to determine VOC emissions from the curing zone stacks and the temporary total enclosures.

Qualitative demonstration can be accomplished if solvent odors are minimal around each applicator enclosure and smoke from a smoke tube is drawn into the applicator enclosure. Given the odor threshold of the solvents used in the coatings and the smoke observations, capture equivalent to a 5% loss will be assumed. However, care should be exercised when observing smoke being drawn into the applicator enclosure. If possible, smoke should be puffed around the perimeter of openings in the applicator enclosure (ignoring holes smaller than 10 in^2), smoke should not linger for more than a few seconds, and nearly all of the smoke should enter the applicator enclosure.

Subsequent demonstration is intended to be done by the following methods for each batch of wires ran on each head but an equivalent method approved by the division may be acceptable. By measuring air velocity into the applicator enclosure during initial demonstration, ongoing compliance can be accomplished through measurement of air velocity at the same locations as air velocity measurements during initial compliance. If all air velocities are > 0.90 x the initial air velocity measurements, capture can be demonstrated to be equivalent to the initial demonstration through documentation of the air velocity measurements for each batch of wires ran on each head. Alternatively, the qualitative initial demonstration above may be performed and documented for each batch of wires ran on each head.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Operating Limitations (Continued):

401 KAR 59:010

The following limit shall apply to assure compliance with Emission Limitations #2 and #3.

6. Machines shall be operated and maintained consistent with good air pollution control practices.

PSD VOC Synthetic Minor Limitation

See Section D, Operating Limitation #1.

PSD Particulate Matter Synthetic Minor Limitation

See Section D, Operating Limitation #1.

Emission Limitations:

401 KAR 59:190

1. Section 3 limits VOC discharge into the atmosphere to a maximum of 15% by weight of the total VOCs input into each coating line or head (including mixing and cleanup).

Compliance Demonstration Method:

Total VOCs input into each line over a 24-hour period shall be controlled so that no more than 15% by weight is emitted into the atmosphere. Use the following equations to demonstrate weight percent of VOCs emitted.

Weight percentage of VOCs emitted = VOC emitted / VOC input

Where:

VOC input = S (lbs of coating input to the line x VOC weight % of coating)
+ S (lbs of solvent input to the line x VOC weight % of solvent)
+ S (lbs of cleaning solution used for the line x VOC weight % of cleaning solution)

VOC emitted = (100% - line capture of VOCs x line control device destruction efficiency)
x **[**S (lbs of coating input to the line x VOC weight % of coating)
+ S (lbs of solvent input to the line x VOC weight % of solvent)**]**
+ (100% - cleaning room capture of VOCs x cleaning room control device destruction efficiency)
x S (lbs of cleaning solution used for the line x VOC weight % of cleaning solution)

Line capture of VOCs is either assumed to be 95% when Operating Limitation #5 is demonstrated qualitatively or as determined through quantitative measurements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Limitations (Continued):

401 KAR 59:190

Compliance Demonstration Method (Continued):

Line control device destruction efficiency has been tested at EV-04 and assuming 95% capture efficiency, destruction efficiency was demonstrated to be 93.8% (see the statement of basis for raw data used in destruction efficiency determination or future recalculations without an assumed capture efficiency). Assuming that regenerated catalyst activity is always equal or lower for future testing, up to date test results shall be used in the above emission calculation.

Cleaning room capture of VOCs has been assumed to be 100%.

Cleaning room control device destruction efficiency is assumed to be 0.0% unless tested. And,

Lbs of cleaning solution used for the line = total lbs of cleaning solution used
x **[**S (lbs of coating input to the line x VOC weight % of coating)
+ S (lbs of solvent input to the line x VOC weight % of solvent)**]**
/ **[**S (lbs of coating input to all lines x VOC weight % of coating)
+ S (lbs of solvent input to all lines x VOC weight % of solvent)**]**.

401 KAR 59:010

2. Section 3(1) limits visible emissions from each stack to less than 20% opacity.

3. Section 3(2) limits emissions of particulate matter from each stack to a maximum of 2.34 lbs/hr.

Compliance Demonstration Method:

If deemed necessary, the Cabinet shall require testing in accordance with 40 CFR 60 Appendix A, Methods 9 and 5, respectively. Otherwise, compliance with Operating Limitation #6 may be used to demonstrate compliance.

PSD VOC Synthetic Minor Limitation

See Section D, Emission Limitation #1.

PSD Particulate Matter Synthetic Minor Limitation

See Section D, Emission Limitation #1.

Testing Requirements:

401 KAR 59:190

See Section D, Testing Requirements for EV-01, EV-02, EV-03, and EV-04.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Specific Monitoring Requirements:

401 KAR 59:190

The following is required as part of compliance demonstration for Operating Limitations #1 through #5.

1. Inlet temperature to the each catalyst shall be monitored continuously when in operation.

2. Outlet temperature from each catalyst shall be monitored continuously when in operation.

3. Hours of operation for each line shall be monitored daily.

4. Configuration of applicator enclosures shall be monitored daily.

5. Monitoring described in the compliance demonstration method for Operating Limitation #5 shall be performed for each batch of wires ran on each head.

Specific Record Keeping Requirements:

401 KAR 59:190

The following is required in accordance with Section F #2 of this permit by Section 4(8) of 401 KAR 59:190 or as part of compliance demonstration for Operating Limitations #1 through #5 and Emission Limitation #1.

1. Inlet temperature to each catalyst shall be recorded at least once per 8-hour shift and if a batch of wires is ran in a shorter period of time. Inlet temperature to each catalyst shall be recorded during the time the batch is processed. [See 401 KAR 59:190 Section 4(8)(g) for regulation citation.]

2. Outlet temperature from each catalyst shall be recorded at least once per 8-hour shift and if a batch of wires is ran in a shorter period of time. Outlet temperature from each catalyst shall be recorded during the time the batch is processed. [See 401 KAR 59:190 Section 4(8)(g) for regulation citation.]

3. Hours of operation prior to catalyst regeneration or replacement shall be recorded for each line.

4. All operating configuration changes of applicator enclosures (including open doors) shall be recorded when monitored (configuration changes occurring when the lines aren't in operation should not be recorded). Additionally, maintenance and the operating condition (good, slow, or not functioning) of door closing assistance mechanisms shall be recorded when performed and weekly, respectively.

5. All observations resulting from Specific Monitoring Requirement #5 shall be recorded and include a description of the monitoring, equipment used, location relative to the applicators and applicator enclosure opening of measurements or smoke, and any qualitative or quantitative measurements taken.

6. All results of Testing Requirements shall be recorded.

7. The regenerated catalyst activity of each curing zone shall be noted using reported performance characteristics furnished by the reactivation service vendor and tracked through serial numbers or other definitive means.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Specific Record Keeping Requirements (Continued):

401 KAR 59:190

8. Daily records of the applicable administrative regulation number, application method, and substrate type [see 401 KAR 59:190 Sections 4(8)(a) and (b) for regulation citation].

9. The amount and type of coating or solvent (including exempt compounds) used at each point of application shall be recorded daily [see 401 KAR 59:190 Section 4(8)(c) for regulation citation].

10. The VOC content of each coating or solvent shall be recorded daily [see 401 KAR 59:190 Section 4(8)(d) for regulation citation].

11. The date each coating or solvent is applied shall be recorded daily [see 401 KAR 59:190 Section 4(8)(e) for regulation citation].

12. The amount of surface preparation, cleanup, or washup solvent (including exempt compounds) used and the VOC content of each shall be recorded daily [see 401 KAR 59:190 Section 4(8)(f) for regulation citation].

13. The lbs of cleaning solution used for each line shall be calculated and recorded daily.

14. The weight percentage of VOCs emitted shall be calculated and recorded daily.

401 KAR 59:010

The following is required as part of compliance demonstration for Emission Limitations #2 and #3.

15. All maintenance on the above referenced machines shall be recorded.

PSD VOC Synthetic Minor Limitation

See Section D, Specific Record Keeping Requirements.

PSD Particulate Matter Synthetic Minor Limitation

See Section D, Specific Record Keeping Requirements.

Specific Reporting Requirements:

Deviations from permit requirements (including emissions in excess of permit limits from startups, shutdowns, and malfunctions) shall be reported in accordance with Section F #6 of this permit.

401 KAR 59:190

The following is required in accordance with Section F #5 of this permit as part of compliance demonstration for Emission Limitation #1.

1. Minimum catalyst inlet temperature for each curing zone shall be reported for each six month period.

2. Maximum catalyst outlet temperature for each curing zone shall be reported for each six month period.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Specific Reporting Requirements (Continued):

401 KAR 59:190

3. Regenerated catalyst activity shall be reported for each curing zone if regeneration results are determined during the six month period.

4. All operating configuration changes of applicator enclosures (including open doors) shall be reported for the six month period (report none if no configuration changes have been noted). Additionally, report the operating condition of door closing assistance mechanisms and maintenance performed on the mechanisms.

5. All observations of insufficient capture for each application area shall be reported for the six month period (report none if all capture observations are adequate).

6. The maximum weight percentage of VOCs emitted shall be reported for each line during the six month period.

PSD VOC Synthetic Minor Limitation

See Section D, Specific Reporting Requirements.

PSD Particulate Matter Synthetic Minor Limitation

See Section D, Specific Reporting Requirements.

Specific Control Equipment Operating Conditions:

Catalytic oxidation systems are contained inside of the enameling ovens. Refer to Operating Limitations #1 - #5 for control equipment operating conditions.

Alternate Operating Scenarios:

N/A

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

EP05 (EH-01) These emission points are Fine Enameling Magnet Wire Machines.

Copper wire enters each of these machines, is drawn through an applicator and dies so that insulation is applied, passes through a curing zone and a cooling zone (in this order), either returns to the applicator or continues to the top coat section (depending on the number of base coats desired and applied), in the top coat section is drawn through an applicator and dies so that a different coating of insulation is applied, passes through a curing zone and a cooling zone, either returns to the applicator or continues to the winding portion of the machine (depending on the number of top coats desired and applied), and finally is wound for shipment.

EH-01 consists of 4 lines or heads where 5 wires (20 total wires) may make multiple passes through the head to produce insulated wire.

The machine is designed to apply, cure, and cool the wire on a plane that is roughly horizontal to the facility's floor.

Catalysts are utilized in each curing zone to reduce emissions and generate heat for the process. (Prior to permit issuance, the catalysts in this machine were assumed to have a 99.3% VOC destruction efficiency due to the minimum data resulting from a stack test at EH-05.)

Electric heaters are utilized to generate any additional heat required in the curing zones.

EH-01 has a maximum throughput rate of 139 m/min for 0.33 mm diameter wire.

Wires with smaller diameters will have higher maximum throughput rates on the machine.

Each head of **EH-01** is exhausted to the ambient air through an independent stack.

EH-01 construction commenced: November 1989.

APPLICABLE REGULATIONS:

Regulation **401 KAR 59:190**, New insulation of magnet wire operations, exempts each affected facility in a county designated attainment commenced after June 29, 1979 but prior to June 24, 1992 except that control devices and procedures required at the time the facility commenced shall continue to be operated and maintained.

Regulation **401 KAR 59:010**, New process operations applicable to each affected facility associated with a process operation which is not subject to another emission standard with respect to particulates in Chapter 59 of 401 KAR commenced on or after July 2, 1975.

Operating Limitations:

401 KAR 59:190

The following limits shall apply to assure compliance with Emission Limitation #1.

1. Each curing zone shall be operated such that the minimum inlet temperature to the catalyst is at least 626° F.
2. Each curing zone shall be operated such that the maximum outlet temperature from the catalyst is no more than 1200° F.
3. Each head shall be operated only if each of the catalysts used in the head has been operated less than 6,000 hours from initial installation, regeneration by a catalyst reactivation service vendor, or catalyst replacement.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Operating Limitations (Continued):

401 KAR 59:190

4. Air flow near the applicators shall be into the curing zones.

Compliance Demonstration Method:

Initially this may be demonstrated quantitatively or qualitatively. Quantitative methods such as Method 204 will demonstrate compliance if less than 5% of the VOC input is exhausted through temporary total enclosures surrounding the applicators. Qualitative demonstration is much more difficult to define but the degree of control is intended to be equivalent to a 5% or less loss.

Quantitative measurement of line capture can be accomplished by measuring the VOCs input at the applicator, building temporary total enclosures around the applicator portions of a head, assuming 100% of the VOC emissions exit through the curing zone stacks or the temporary total enclosures, and performing tests to determine VOC emissions from the curing zone stacks and the temporary total enclosures.

Qualitative demonstration can be accomplished if solvent odors are minimal around each applicator and smoke from a smoke tube is drawn into the curing zones. Given the odor threshold of the solvents used in the coatings and the smoke observations, capture equivalent to a 5% loss will be assumed. However, care should be exercised when observing smoke being drawn into the curing zones. If possible, smoke should be puffed around the perimeter of the applicators or the openings in the enclosures surrounding the applicators (ignoring holes smaller than 10 in^2), smoke should not linger for more than a few seconds, and nearly all of the smoke should enter the curing zones.

Subsequent demonstration is intended to be done by the following methods for each batch of wires ran on each head but an equivalent method approved by the division may be acceptable. By measuring air velocity into the curing zones during initial demonstration, ongoing compliance can be accomplished through measurement of air velocity at the same locations as air velocity measurements during initial compliance. If all air velocities are > 0.90 x the initial air velocity measurements, capture can be demonstrated to be equivalent to the initial demonstration through documentation of the air velocity measurements for each batch of wires ran on each head. Alternatively, the qualitative initial demonstration above may be performed and documented for each batch of wires ran on each head.

401 KAR 59:010

The following limit shall apply to assure compliance with Emission Limitations #2 and #3.

5. Machines shall be operated and maintained consistent with good air pollution control practices.

PSD VOC Synthetic Minor Limitation

See Section D, Operating Limitation #1.

PSD Particulate Matter Synthetic Minor Limitation

See Section D, Operating Limitation #1.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Limitations:

401 KAR 59:190

1. For these emission points, Section 2(2) requires controls (that were required at the time of construction or modification) to be operated and maintained. The permittee was and shall continue to be required to limit VOC discharge into the atmosphere to a maximum of 15% by weight of the total VOCs input into each coating line or head (including mixing and cleanup).

Compliance Demonstration Method:

Total VOCs input into each line over a 24-hour period shall be controlled so that no more than 15% by weight is emitted into the atmosphere. Use the following equations to demonstrate weight percent of VOCs emitted.

Weight percentage of VOCs emitted = VOC emitted / VOC input

Where:

VOC input = S (lbs of coating input to the line x VOC weight % of coating)
+ S (lbs of solvent input to the line x VOC weight % of solvent)
+ S (lbs of cleaning solution used for the line x VOC weight % of cleaning solution)

VOC emitted = (100% - line capture of VOCs x line control device destruction efficiency)
x **[**S (lbs of coating input to the line x VOC weight % of coating)
+ S (lbs of solvent input to the line x VOC weight % of solvent)**]**
+ (100% - cleaning room capture of VOCs x cleaning room control device destruction efficiency)
x S (lbs of cleaning solution used for the line x VOC weight % of cleaning solution)

Line capture of VOCs is either assumed to be 95% when Operating Limitation #4 is demonstrated qualitatively or as determined through quantitative measurements.

Line control device destruction efficiency was determined at the base coat and top coat sections of EH-05 and assuming 95% capture efficiency, the lesser destruction efficiency demonstrated was 99.3% (see the statement of basis for raw data used in destruction efficiency determination or future recalculations without an assumed capture efficiency). Since these lines are similar to EH-05 but none of these lines have actually been tested, a conservative destruction efficiency of 99.3% has a reasonable basis at these lines (a higher value is questionable). Assuming that regenerated catalyst activity is always equal or lower for future testing, up to date test results shall be used in the above emission calculation.

Cleaning room capture of VOCs has been assumed to be 100%.

Cleaning room control device destruction efficiency is assumed to be 0.0% unless tested.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Limitations (Continued):

401 KAR 59:190

Compliance Demonstration Method (Continued):

And,

Lbs of cleaning solution used for the line = total lbs of cleaning solution used
x **[**S (lbs of coating input to the line x VOC weight % of coating)
+ S (lbs of solvent input to the line x VOC weight % of solvent)**]**
/ **[**S (lbs of coating input to all lines x VOC weight % of coating)
+ S (lbs of solvent input to all lines x VOC weight % of solvent)**]**.

401 KAR 59:010

2. Section 3(1) limits visible emissions from each stack to less than 20% opacity.

3. Section 3(2) limits emissions of particulate matter from each stack to a maximum of 2.34 lbs/hr.

Compliance Demonstration Method:

If deemed necessary, the Cabinet shall require testing in accordance with 40 CFR 60 Appendix A, Methods 9 and 5, respectively. Otherwise, compliance with Operating Limitation #5 may be used to demonstrate compliance.

PSD VOC Synthetic Minor Limitation

See Section D, Emission Limitation #1.

PSD Particulate Matter Synthetic Minor Limitation

See Section D, Emission Limitation #1.

Testing Requirements:

401 KAR 59:190 and 401 KAR 59:010

See Section D, Testing Requirements for EH-01, EH-02, EH-03, EH-04, EH-05 and EH-06.

Specific Monitoring Requirements:

401 KAR 59:190

The following is required as part of compliance demonstration for Operating Limitations #1 through #4.

1. Inlet temperature to the each catalyst shall be monitored continuously when in operation.

2. Outlet temperature from each catalyst shall be monitored continuously when in operation.

3. Hours of operation for each line shall be monitored daily.

4. Monitoring described in the compliance demonstration method for Operating Limitation #4 shall be performed for each batch of wires ran on each head.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Specific Record Keeping Requirements:

401 KAR 59:190

The following is required in accordance with Section F #2 of this permit as part of compliance demonstration for Operating Limitations #1 through #4 and Emission Limitation #1.

1. Inlet temperature to each catalyst shall be recorded at least once per 8-hour shift and if a batch of wires is ran in a shorter period of time. Inlet temperature to each catalyst shall be recorded during the time the batch is processed.

2. Outlet temperature from each catalyst shall be recorded at least once per 8-hour shift and if a batch of wires is ran in a shorter period of time. Outlet temperature from each catalyst shall be recorded during the time the batch is processed.

3. Hours of operation prior to catalyst regeneration or replacement shall be recorded for each line.

4. All observations resulting from Specific Monitoring Requirement #4 shall be recorded and include a description of the monitoring, equipment used, location relative to the applicators and applicator enclosure opening of measurements or smoke, and any qualitative or quantitative measurements taken.

5. All results of Testing Requirements shall be recorded.

6. The regenerated catalyst activity of each curing zone shall be noted using reported performance characteristics furnished by the reactivation service vendor and tracked through serial numbers or other definitive means.

7. The amount and type of coating or solvent (including exempt compounds) used at each point of application shall be recorded daily.

8. The VOC content of each coating or solvent shall be recorded.

9. The amount of cleanup or washup solvent (including exempt compounds) used and the VOC content of each shall be recorded daily.

10. The lbs of cleaning solution used for each line shall be calculated and recorded daily.

11. The weight percentage of VOCs emitted shall be calculated and recorded daily.

401 KAR 59:010

The following is required as part of compliance demonstration for Emission Limitations #2 and #3.

12. All maintenance on the above referenced machines shall be recorded.

PSD VOC Synthetic Minor Limitation

See Section D, Specific Record Keeping Requirements.

PSD Particulate Matter Synthetic Minor Limitation

See Section D, Specific Record Keeping Requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Specific Reporting Requirements:

Deviations from permit requirements (including emissions in excess of permit limits from startups, shutdowns, and malfunctions) shall be reported in accordance with Section F #6 of this permit.

401 KAR 59:190

The following is required in accordance with Section F #5 of this permit as part of compliance demonstration for Emission Limitation #1.

1. Minimum catalyst inlet temperature for each curing zone shall be reported for each six month period.
2. Maximum catalyst outlet temperature for each curing zone shall be reported for each six month period.
3. Regenerated catalyst activity shall be reported for each curing zone if regeneration results are determined during the six month period.
4. All observations of insufficient capture for each application area shall be reported for the six month period (report none if all capture observations are adequate).
5. The maximum weight percentage of VOCs emitted shall be reported for each line during the six month period.

PSD VOC Synthetic Minor Limitation

See Section D, Specific Reporting Requirements.

PSD Particulate Matter Synthetic Minor Limitation

See Section D, Specific Reporting Requirements.

Specific Control Equipment Operating Conditions:

Catalytic oxidation systems are contained inside of the enameling ovens. Refer to Operating Limitations #1 - #4 for control equipment operating conditions.

Alternate Operating Scenarios:

N/A

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

EP06, EP07, EP08, and EP09 (EH-02, EH-03, EH-04, and EH-05) These emission points are Fine Enameling Magnet Wire Machines.

Copper wire enters **EH-02, EH-03, and EH-05** at the base coat section, is drawn through an applicator and dies so that insulation is applied, passes through a curing zone and a cooling zone (in this order), either returns to the applicator or continues to the top coat section (depending on the number of base coats desired and applied), in the top coat section is drawn through an applicator and dies so that a different coating of insulation is applied, passes through a curing zone and a cooling zone, either returns to the applicator or continues to the winding portion of the machine (depending on the number of top coats desired and applied), and finally is wound for shipment.

Copper wire enters **EH-04**, is drawn through an applicator and dies so that insulation is applied, passes through a curing zone and a cooling zone (in this order), either returns to the applicator or continues to the winding portion of the machine (depending on the number of coats desired and applied), and finally is wound for shipment.

Each machine consists of 4 lines or heads where 5 wires (20 total wires on each machine) may make multiple passes through the head to produce insulated wire. In **EH-02, EH-03, and EH-05** a base coat applicator and a top coat applicator section are present in each head. In **EH-04** only one applicator section is present in each head.

The machines are designed to apply, cure, and cool the wire on a plane that is roughly horizontal to the facility's floor.

Catalysts are utilized in each curing zone to reduce emissions and generate heat (see Emission Limitation #1 Compliance Demonstration Method for emission reduction estimates).

Electric heaters are utilized to generate any additional heat required in the curing zones.

EH-02 is being modified to have a maximum throughput rate of 139 m/min for 0.35 mm diameter wire. Prior to the modification, the maximum throughput rate will be 86 m/min for 0.35 mm diameter wire.

EH-03 has a maximum throughput rate of 129 m/min for 0.35 mm diameter wire.

EH-04 has a maximum throughput rate of 139 m/min for 0.33 mm diameter wire.

EH-05 have a maximum throughput rate of 137 m/min for 0.35 mm diameter wire.

Wires with smaller diameters will have higher maximum throughput rates on all of these machines.

Base coat heads 01 and 02 of **EH-02** are exhausted to the ambient air through a single stack.

Base coat heads 03 and 04 of **EH-02** are exhausted to the ambient air through a single stack.

Top coat heads 01 and 02 of **EH-02** are exhausted to the ambient air through a single stack.

Top coat heads 03 and 04 of **EH-02** are exhausted to the ambient air through a single stack. (EH-02 has a total of four stacks)

All other curing zones of each head of each machine are exhausted to the ambient air through an independent stack (**EH-04** has 4 stacks, **EH-05** has 8 stacks, and **EH-03** has 8 stacks).

EH-02 construction commenced:	May 1991	Modified:	in late 2000.
EH-03 construction commenced:	July 1994.		
EH-04 construction commenced:	August 1994.		
EH-05 construction commenced:	November 1996	Modified:	in April 2001.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

APPLICABLE REGULATIONS:

Regulation **401 KAR 59:190**, New insulation of magnet wire operations, applies to each affected facility part of a major source in a county designated attainment commenced on or after June 24, 1992.

Regulation **401 KAR 59:010**, New process operations applicable to each affected facility associated with a process operation which is not subject to another emission standard with respect to particulates in Chapter 59 of 401 KAR commenced on or after July 2, 1975.

Operating Limitations:

401 KAR 59:190

The following limits shall apply to assure compliance with Emission Limitation #1.

1. Each curing zone shall be operated such that the minimum inlet temperature to the catalyst is at least 626° F.

2. Each curing zone shall be operated such that the maximum outlet temperature from the catalyst is no more than 1200° F.

3. Each head shall be operated only if each of the catalysts used in the head has been operated less than 6,000 hours from initial installation, regeneration by a catalyst reactivation service vendor, or catalyst replacement.

4. Air flow near the applicators shall be into the curing zones.

Compliance Demonstration Method:

Initially this may be demonstrated quantitatively or qualitatively. Quantitative methods such as Method 204 will demonstrate compliance if less than 5% of the VOC input is exhausted through temporary total enclosures surrounding the applicators. Qualitative demonstration is much more difficult to define but the degree of control is intended to be equivalent to a 5% or less loss.

Quantitative measurement of line capture can be accomplished by measuring the VOCs input at the applicator, building temporary total enclosures around the applicator portions of a head, assuming 100% of the VOC emissions exit through the curing zone stacks or the temporary total enclosures, and performing tests to determine VOC emissions from the curing zone stacks and the temporary total enclosures.

Qualitative demonstration can be accomplished if solvent odors are minimal around each applicator and smoke from a smoke tube is drawn into the curing zones. Given the odor threshold of the solvents used in the coatings and the smoke observations, capture equivalent to a 5% loss will be assumed. However, care should be exercised when observing smoke being drawn into the curing zones. If possible, smoke should be puffed around the perimeter of the applicators or the openings in the enclosures surrounding the applicators (ignoring holes smaller than 10 in^2), smoke should not linger for more than a few seconds, and nearly all of the smoke should enter the curing zones.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Operating Limitations (Continued):

401 KAR 59:190

Compliance Demonstration Method (Continued):

Subsequent demonstration is intended to be done by the following methods for each batch of wires ran on each head but an equivalent method approved by the division may be acceptable. By measuring air velocity into the curing zones during initial demonstration, ongoing compliance can be accomplished through measurement of air velocity at the same locations as air velocity measurements during initial compliance. If all air velocities are > 0.90 x the initial air velocity measurements, capture can be demonstrated to be equivalent to the initial demonstration through documentation of the air velocity measurements for each batch of wires ran on each head. Alternatively, the qualitative initial demonstration above may be performed and documented for each batch of wires ran on each head.

401 KAR 59:010

The following limit shall apply to assure compliance with Emission Limitations #2 and #3.

5. Machines shall be operated and maintained consistent with good air pollution control practices.

PSD VOC Synthetic Minor Limitation

See Section D, Operating Limitation #1.

PSD Particulate Matter Synthetic Minor Limitation

See Section D, Operating Limitation #1.

Emission Limitations:

401 KAR 59:190

1. Section 3 limits VOC discharge into the atmosphere to a maximum of 15% by weight of the total VOCs input into each coating line or head (including mixing and cleanup).

Compliance Demonstration Method for EH-02, EH-03, and EH-05:

Total VOCs input into each line over a 24-hour period shall be controlled so that no more than 15% by weight is emitted into the atmosphere. Use the following equations to demonstrate weight percent of VOCs emitted.

Weight percentage of VOCs emitted = VOC emitted / VOC input

Where:

VOC input = S (lbs of coating input to the line x VOC weight % of coating)
+ S (lbs of solvent input to the line x VOC weight % of solvent)
+ S (lbs of cleaning solution used for the line x VOC weight % of cleaning solution)

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Limitations (Continued):

401 KAR 59:190

Compliance Demonstration Method for EH-02, EH-03, and EH-05 (Continued):

VOC emitted = (100% - line capture of base coat section VOCs
x line base coat section control device destruction efficiency)
x **[**S (lbs of coating input to the base coat section of the line x VOC weight % of coating)
+ S (lbs of solvent input to the base coat section of the line x VOC weight % of solvent)**]**
+ (100% - line capture of top coat section VOCs
x line top coat section control device destruction efficiency)
x **[**S (lbs of coating input to the top coat section of the line x VOC weight % of coating)
+ S (lbs of solvent input to the top coat section of the line x VOC weight % of solvent)**]**
+ (100% - cleaning room capture of VOCs x cleaning room control device destruction efficiency)
x S (lbs of cleaning solution used for the line x VOC weight % of cleaning solution)

Line capture of base coat and top coat VOCs is either assumed to be 95% when Operating Limitation #4 is demonstrated qualitatively or as determined through quantitative measurements.

Line base coat section control device destruction efficiency has been tested at EH-05 and assuming 95% capture efficiency, destruction efficiency for the base coat section of EH-05 was demonstrated to be 99.8% (see the statement of basis for raw data used in destruction efficiency determination or future recalculations without an assumed capture efficiency). Assuming that regenerated catalyst activity is always equal or lower for future testing, up to date test results shall be used in the above emission calculation even if the testing isn't done on the top coat section because of the similarity in the sections.

Line top coat section control device destruction efficiency has been tested at EH-05 and assuming 95% capture efficiency, destruction efficiency for the top coat section of EH-05 was demonstrated to be 99.3% (see the statement of basis for raw data used in destruction efficiency determination or future recalculations without an assumed capture efficiency). Assuming that regenerated catalyst activity is always equal or lower for future testing, up to date test results shall be used in the above emission calculation even if the testing isn't done on the base coat section because of the similarity in the sections.

Cleaning room capture of VOCs has been assumed to be 100%.

Cleaning room control device destruction efficiency is assumed to be 0.0% unless tested.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Limitations (Continued):

401 KAR 59:190

Compliance Demonstration Method for EH-02, EH-03, and EH-05 (Continued):

And,

Lbs of cleaning solution used for the line = total lbs of cleaning solution used
x **[**S (lbs of coating input to the line x VOC weight % of coating)
+ S (lbs of solvent input to the line x VOC weight % of solvent)**]**
/ **[**S (lbs of coating input to all lines x VOC weight % of coating)
+ S (lbs of solvent input to all lines x VOC weight % of solvent)**]**.

Compliance Demonstration Method for EH-04:

Total VOCs input into each line over a 24-hour period shall be controlled so that no more than 15% by weight is emitted into the atmosphere. Use the following equations to demonstrate weight percent of VOCs emitted.

Weight percentage of VOCs emitted = VOC emitted / VOC input

Where:

VOC input = S (lbs of coating input to the line x VOC weight % of coating)
+ S (lbs of solvent input to the line x VOC weight % of solvent)
+ S (lbs of cleaning solution used for the line x VOC weight % of cleaning solution)

VOC emitted = (100% - line capture of VOCs x line control device destruction efficiency)
x **[**S (lbs of coating input to the line x VOC weight % of coating)
+ S (lbs of solvent input to the line x VOC weight % of solvent)**]**
+ (100% - cleaning room capture of VOCs x cleaning room control device destruction efficiency)
x S (lbs of cleaning solution used for the line x VOC weight % of cleaning solution)

Line capture of VOCs is either assumed to be 95% when Operating Limitation #4 is demonstrated qualitatively or as determined through quantitative measurements.

Line control device destruction efficiency was determined at the base coat and top coat sections of EH-05 and assuming 95% capture efficiency, the lesser destruction efficiency demonstrated was 99.3% (see the statement of basis for raw data used in destruction efficiency determination or future recalculations without an assumed capture efficiency). Since these lines are similar to EH-05 but none of these lines have actually been tested, a conservative destruction efficiency of 99.3% has a reasonable basis at these lines (a higher value is questionable). Assuming that regenerated catalyst activity is always equal or lower for future testing, up to date test results shall be used in the above emission calculation.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Limitations (Continued):

401 KAR 59:190

Compliance Demonstration Method for EH-04 (Continued):

Cleaning room capture of VOCs has been assumed to be 100%.

Cleaning room control device destruction efficiency is assumed to be 0.0% unless tested. And,

Lbs of cleaning solution used for the line = total lbs of cleaning solution used

x **[**S (lbs of coating input to the line x VOC weight % of coating)

+ S (lbs of solvent input to the line x VOC weight % of solvent)**]**

/ **[**S (lbs of coating input to all lines x VOC weight % of coating)

+ S (lbs of solvent input to all lines x VOC weight % of solvent)**]**.

401 KAR 59:010

2. Section 3(1) limits visible emissions from each stack to less than 20% opacity.

3. Section 3(2) limits emissions of particulate matter from each stack to a maximum of 2.34 lbs/hr.

Compliance Demonstration Method:

If deemed necessary, the Cabinet shall require testing in accordance with 40 CFR 60 Appendix A, Methods 9 and 5, respectively. Otherwise, compliance with Operating Limitation #5 may be used to demonstrate compliance.

PSD VOC Synthetic Minor Limitation

See Section D, Emission Limitation #1.

PSD Particulate Matter Synthetic Minor Limitation

See Section D, Emission Limitation #1.

Testing Requirements:

401 KAR 59:190

See Section D, Testing Requirements for EH-01, EH-02, EH-03, EH-04, EH-05 and EH-06.

Specific Monitoring Requirements:

401 KAR 59:190

The following is required as part of compliance demonstration for Operating Limitations #1 through #4.

1. Inlet temperature to the each catalyst shall be monitored continuously when in operation.

2. Outlet temperature from each catalyst shall be monitored continuously when in operation.

3. Hours of operation for each line shall be monitored daily.

4. Monitoring described in the compliance demonstration method for Operating Limitation #4 shall be performed for each batch of wires ran on each head.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Specific Record Keeping Requirements:

401 KAR 59:190

The following is required in accordance with Section F #2 of this permit by Section 4(8) of 401 KAR 59:190 or as part of compliance demonstration for Operating Limitations #1 through #4 and Emission Limitation #1.

1. Inlet temperature to each catalyst shall be recorded at least once per 8-hour shift and if a batch of wires is ran in a shorter period of time. Inlet temperature to each catalyst shall be recorded during the time the batch is processed. [See 401 KAR 59:190 Section 4(8)(g) for regulation citation.]

2. Outlet temperature from each catalyst shall be recorded at least once per 8-hour shift and if a batch of wires is ran in a shorter period of time. Outlet temperature from each catalyst shall be recorded during the time the batch is processed. [See 401 KAR 59:190 Section 4(8)(g) for regulation citation.]

3. Hours of operation prior to catalyst regeneration or replacement shall be recorded for each line.

4. All observations resulting from Specific Monitoring Requirement #4 shall be recorded and include a description of the monitoring, equipment used, location relative to the applicators of measurements or smoke, and any qualitative or quantitative measurements taken.

5. All results of Testing Requirements shall be recorded.

6. The regenerated catalyst activity of each curing zone shall be noted using reported performance characteristics furnished by the reactivation service vendor and tracked through serial numbers or other definitive means.

7. Daily records of the applicable administrative regulation number, application method, and substrate type [see 401 KAR 59:190 Sections 4(8)(a) and (b) for regulation citation].

8. The amount and type of coating or solvent (including exempt compounds) used at each point of application shall be recorded daily [see 401 KAR 59:190 Section 4(8)(c) for regulation citation].

9. The VOC content of each coating or solvent shall be recorded daily [see 401 KAR 59:190 Section 4(8)(d) for regulation citation].

10. The date each coating or solvent is applied shall be recorded daily [see 401 KAR 59:190 Section 4(8)(e) for regulation citation].

11. The amount of surface preparation, cleanup, or washup solvent (including exempt compounds) used and the VOC content of each shall be recorded daily [see 401 KAR 59:190 Section 4(8)(f) for regulation citation].

12. The lbs of cleaning solution used for each line shall be calculated and recorded daily.

13. The weight percentage of VOCs emitted shall be calculated and recorded daily.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Specific Record Keeping Requirements (Continued):

401 KAR 59:010

The following is required as part of compliance demonstration for Emission Limitations #2 and #3.

14. All maintenance on the above referenced machines shall be recorded.

PSD VOC Synthetic Minor Limitation

See Section D, Specific Record Keeping Requirements.

PSD Particulate Matter Synthetic Minor Limitation

See Section D, Specific Record Keeping Requirements.

Specific Reporting Requirements:

Deviations from permit requirements (including emissions in excess of permit limits from startups, shutdowns, and malfunctions) shall be reported in accordance with Section F #6 of this permit.

401 KAR 59:190

The following is required in accordance with Section F #5 of this permit as part of compliance demonstration for Emission Limitation #1.

1. Minimum catalyst inlet temperature for each curing zone shall be reported for each six month period.

2. Maximum catalyst outlet temperature for each curing zone shall be reported for each six month period.

3. Regenerated catalyst activity shall be reported for each curing zone if regeneration results are determined during the six month period.

4. All observations of insufficient capture for each application area shall be reported for the six month period (report none if all capture observations are adequate).

5. The maximum weight percentage of VOCs emitted shall be reported for each line during the six month period.

PSD VOC Synthetic Minor Limitation

See Section D, Specific Reporting Requirements.

PSD Particulate Matter Synthetic Minor Limitation

See Section D, Specific Reporting Requirements.

Specific Control Equipment Operating Conditions:

Catalytic oxidation systems are contained inside of the enameling ovens. Refer to Operating Limitations #1 - #4 for control equipment operating conditions.

Alternate Operating Scenarios:

N/A

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

EP12, EP13, EP14, EP15, EP16, and EP17 (EE-02, EE-03, EE-04, EE-05, EE-06, and EE-07) These emission points are Ultra Fine Enameling Magnet Wire Machines.

Copper wire enters each of these machines, is drawn through an applicator and dies so that insulation is applied, passes through a curing zone and a cooling zone (in this order), either returns to the applicator or continues to the winding portion of the machine (depending on the number of coats desired and applied), and finally is wound for shipment.

Each machine consists of 4 lines or heads where only 1 wire (4 total wires) may make multiple passes through the head to produce insulated wire.

The machines are designed to apply, cure, and cool the wire on a plane that is roughly horizontal to the facility's floor.

Catalysts estimated to have a 98% VOC control efficiency are utilized in each curing zone to reduce emissions and generate heat for the process.

Electric heaters are utilized to generate any additional heat required in the curing zones.

An additional catalyst is utilized in the combined stack of the 4 heads to additionally reduce emissions.

EE-02 has a maximum throughput rate of 385 m/min for 0.07 mm diameter wire.

EE-03, EE-04, EE-05, EE-06, and EE-07 have a maximum throughput rate of 643 m/min for 0.07 mm diameter wire.

Wires with smaller diameters will have higher maximum throughput rates on all of these machines.

The 4 heads of each machine are exhausted to the ambient air through a single stack.

EE-02 construction commenced:	April 2000.
EE-03 construction commenced:	March 2001.
EE-04 construction commenced:	September 2001.
EE-05 construction commenced:	September 2001.
EE-06 construction commenced	January 2002
EE-07 construction commenced:	January 2002.

APPLICABLE REGULATIONS:

Regulation **401 KAR 59:190**, New insulation of magnet wire operations, applies to each affected facility part of a major source in a county designated attainment commenced on or after June 24, 1992.

Regulation **401 KAR 59:010**, New process operations applicable to each affected facility associated with a process operation which is not subject to another emission standard with respect to particulates in Chapter 59 of 401 KAR commenced on or after July 2, 1975.

Operating Limitations:

401 KAR 59:190

The following limits shall apply to assure compliance with Emission Limitation #1.

1. Each curing zone shall be operated such that the minimum inlet temperature to the catalyst is at least 626° F.
2. Each curing zone shall be operated such that the maximum outlet temperature from the catalyst is no more than 1200° F.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Operating Limitations (Continued):

401 KAR 59:190

3. Each head shall be operated only if each of the catalysts used in the head has been operated less than 6,000 hours from initial installation, regeneration by a catalyst reactivation service vendor, or catalyst replacement.

4. Air flow near the applicators shall be into the curing zones.

Compliance Demonstration Method:

Initially this may be demonstrated quantitatively or qualitatively. Quantitative methods such as Method 204 will demonstrate compliance if less than 5% of the VOCs input are exhausted through temporary total enclosures surrounding the applicators. Qualitative demonstration is much more difficult to define but the degree of control is intended to be equivalent to a 5% or less loss.

Quantitative measurement of line capture can be accomplished by measuring the VOCs input at the applicator, building temporary total enclosures around the applicator portions of a head, assuming 100% of the VOC emissions exit through the curing zone stacks or the temporary total enclosures, and performing tests to determine VOC emissions from the curing zone stacks and the temporary total enclosures.

Qualitative demonstration can be accomplished if solvent odors are minimal around each machine and smoke from a smoke tube is drawn into the curing zones. Given the odor threshold of the solvents used in the coatings and the smoke observations, capture equivalent to a 5% loss will be assumed. However, care should be exercised when observing smoke being drawn into the curing zones. If possible, smoke should be puffed around the perimeter of the applicators or the openings in the enclosures surrounding the applicators (ignoring holes smaller than 10 in^2), smoke should not linger for more than a few seconds, and nearly all of the smoke should enter the curing zones.

Subsequent demonstration is intended to be done by the following methods for each batch of wires ran on each head but an equivalent method approved by the division may be acceptable. By measuring air velocity into the curing zones during initial demonstration, ongoing compliance can be accomplished through measurement of air velocity at the same locations as air velocity measurements during initial compliance. If all air velocities are > 0.90 x the initial air velocity measurements, capture can be demonstrated to be equivalent to the initial demonstration through documentation of the air velocity measurements for each batch of wires ran on each head. Alternatively, the qualitative initial demonstration above may be performed and documented for each batch of wires ran on each head.

401 KAR 59:010

The following limit shall apply to assure compliance with Emission Limitations #2 and #3.

5. Machines shall be operated and maintained consistent with good air pollution control practices.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Operating Limitations (Continued):

The following self-imposed **limit** shall apply **to preclude applicability of 40 CFR 63, Subpart B**.

6. S **[**(lbs of each coating input to each line at the above referenced machines x Individual HAP weight % of coating + lbs of each solvent input to each line at the above referenced machines x Individual HAP weight % of solvent)**]** - S **[**(lbs of each coating input to each line at the above referenced machines x Individual HAP weight % of coating + lbs of each solvent input to each line at the above referenced machines x Individual HAP weight % of solvent) x line capture of VOCs x line control device destruction efficiency**]** + Individual HAP content in cleaning solutions utilized for the above referenced machines during any consecutive 12 month period shall not exceed 18,000 lbs. (See the compliance demonstration for Emission Limitation #1 for clarification of terms in this limit.)

PSD VOC Synthetic Minor Limitation

See Section D, Operating Limitation #1.

PSD Particulate Matter Synthetic Minor Limitation

See Section D, Operating Limitation #1.

Emission Limitations:

401 KAR 59:190

1. Section 3 limits VOC discharge into the atmosphere to a maximum of 15% by weight of the total VOCs input into each coating line or head (including mixing and cleanup).

Compliance Demonstration Method:

Total VOCs input into each line over a 24-hour period shall be controlled so that no more than 15% by weight is emitted into the atmosphere. Use the following equations to demonstrate weight percent of VOCs emitted.

Weight percentage of VOCs emitted = VOC emitted / VOC input

Where:

VOC input = S (lbs of coating input to the line x VOC weight % of coating)
+ S (lbs of solvent input to the line x VOC weight % of solvent)
+ S (lbs of cleaning solution used for the line x VOC weight % of cleaning solution)

VOC emitted = (100% - line capture of VOCs x line control device destruction efficiency)
x **[**S (lbs of coating input to the line x VOC weight % of coating)
+ S (lbs of solvent input to the line x VOC weight % of solvent)**]**
+ (100% - cleaning room capture of VOCs x cleaning room control device destruction efficiency)
x S (lbs of cleaning solution used for the line x VOC weight % of cleaning solution)

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Limitations (Continued):

401 KAR 59:190

Compliance Demonstration Method (Continued):

Line capture of VOCs is either assumed to be 95% when Operating Limitation #4 is demonstrated qualitatively or as determined through quantitative measurements.

Line control device destruction efficiency has initially been assumed to be 98%. Once tested, initially assumed destruction efficiency shall be replaced by the results of the testing.

Cleaning room capture of VOCs has been assumed to be 100%.

Cleaning room control device destruction efficiency is assumed to be 0.0% unless tested. And,

Lbs of cleaning solution used for the line = total lbs of cleaning solution used
x **[**S (lbs of coating input to the line x VOC weight % of coating)
+ S (lbs of solvent input to the line x VOC weight % of solvent)**]**
/ **[**S (lbs of coating input to all lines x VOC weight % of coating)
+ S (lbs of solvent input to all lines x VOC weight % of solvent)**]**.

401 KAR 59:010

2. Section 3(1) limits visible emissions from each stack to less than 20% opacity.

3. Section 3(2) limits emissions of particulate matter from each stack to a maximum of 2.34 lbs/hr.

Compliance Demonstration Method:

If deemed necessary, the Cabinet shall require testing in accordance with 40 CFR 60 Appendix A, Methods 9 and 5, respectively. Otherwise, compliance with Operating Limitation #5 may be used to demonstrate compliance.

The following self-imposed **limits** shall apply **to preclude applicability of 40 CFR 63, Subpart B**.

4. Individual HAP emitted at the above referenced machines during any consecutive 12 month period shall not exceed 18,000 lbs.

Compliance Demonstration Method:

See Operating Limitation #6.

PSD VOC Synthetic Minor Limitation

See Section D, Emission Limitation #1.

PSD Particulate Matter Synthetic Minor Limitation

See Section D, Emission Limitation #1.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Testing Requirements:

401 KAR 59:190

The following requirements shall apply as part of compliance demonstration with Emission Limitation #1. Additionally, the testing shall also be performed at or near (within 10%) the normal operation maximum gas space velocity.

1. Catalytic destruction efficiency for one of the curing zones shall be demonstrated through stack testing prior to regeneration and shall be within 300 operating hours of the scheduled regeneration unless testing is performed as described for EE-01. If control efficiency is determined at the stack level, input from all four heads shall be utilized to confirm that the combined stack catalyst is capable of functioning at a relatively high VOC throughput rate.

2. Testing described in Testing Requirement #1 shall be repeated within 3 years. Alternatively, testing shall be repeated within 5 years if the following conditions are satisfied:

a. Regenerated catalyst activity meets or exceeds the reported activity stack tested previously;

b. Stack testing has always indicated that compliance demonstration with Emission Limitation #1 was achieved at the relevant activity levels; and

c. The permittee notifies the division that such is the case 90 days prior to the 3 year anniversary of the most recent test.

3. If any of the catalytic destruction efficiency testing described in Testing Requirements #1 and #2 fails to demonstrate 90% destruction efficiency, a quantitative measurement of capture efficiency shall be performed as described in the compliance demonstration for Operating Limitation #4 to demonstrate compliance with Emission Limitation #1.

Note: Results will not include emissions from mixing or emissions that result after the curing zones, however, these emission sources are believed to be negligible.

Specific Monitoring Requirements:

401 KAR 59:190

The following is required as part of compliance demonstration for Operating Limitations #1 through #4.

1. Inlet temperature to the each catalyst shall be monitored continuously when in operation.

2. Outlet temperature from each catalyst shall be monitored continuously when in operation.

3. Hours of operation for each line shall be monitored daily.

4. Monitoring described in the compliance demonstration method for Operating Limitation #4 shall be performed for each batch of wires ran on each head.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Specific Record Keeping Requirements:

401 KAR 59:190

The following is required in accordance with Section F #2 of this permit by Section 4(8) of 401 KAR 59:190 or as part of compliance demonstration for Operating Limitations #1 through #4 and Emission Limitation #1.

1. Inlet temperature to each catalyst shall be recorded at least once per 8-hour shift and if a batch of wires is ran in a shorter period of time, inlet temperature to each catalyst shall be recorded during the time the batch is processed [see 401 KAR 59:190 Section 4(8)(g) for regulation citation].

2. Outlet temperature from each catalyst shall be recorded at least once per 8-hour shift and if a batch of wires is ran in a shorter period of time, outlet temperature from each catalyst shall be recorded during the time the batch is processed [see 401 KAR 59:190 Section 4(8)(g) for regulation citation].

3. Hours of operation prior to catalyst regeneration shall be recorded for each line.

4. All observations resulting from Specific Monitoring Requirement #4 shall be recorded and include a description of the monitoring, equipment used, location relative to the applicators of measurements or smoke, and any qualitative or quantitative measurements taken.

5. All results of Testing Requirements shall be recorded.

6. The regenerated catalyst activity of each curing zone shall be noted using reported performance characteristics furnished by the reactivation service vendor and tracked through serial numbers or other definitive means.

7. Daily records of the applicable administrative regulation number, application method, and substrate type [see 401 KAR 59:190 Sections 4(8)(a) and (b) for regulation citation].

8. The amount and type of coating or solvent (including exempt compounds) used at each point of application shall be recorded daily [see 401 KAR 59:190 Section 4(8)(c) for regulation citation]. (This condition is also required for compliance demonstration with self-imposed **limits to preclude applicability of 40 CFR 63, Subpart B**.)

9. The VOC content of each coating or solvent shall be recorded daily [see 401 KAR 59:190 Section 4(8)(d) for regulation citation].

10. The date each coating or solvent is applied shall be recorded daily [see 401 KAR 59:190 Section 4(8)(e) for regulation citation].

11. The amount of surface preparation, cleanup, or washup solvent (including exempt compounds) used and the VOC content of each shall be recorded daily [see 401 KAR 59:190 Section 4(8)(f) for regulation citation].

12. The lbs of cleaning solution used for each line shall be calculated and recorded daily. (This condition is also required for compliance demonstration with self-imposed **limits to preclude applicability of 40 CFR 63, Subpart B**.)

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Specific Record Keeping Requirements (Continued):

401 KAR 59:190

13. The weight percentage of VOCs emitted shall be calculated and recorded daily.

401 KAR 59:010

The following is required as part of compliance demonstration for Emission Limitations #2 and #3.

14. All maintenance on the above referenced machines shall be recorded.

Self-imposed **limits to preclude applicability of 40 CFR 63, Subpart B** require the following record keeping.

15. The individual HAP and combined HAPs content of each coating, solvent, and cleaning solution shall be recorded.

16. The amount of each individual HAP emitted each month as determined using the method of calculation in Operating Limitation #6 shall be recorded.

17. The total individual HAP emissions for any 12 consecutive month period shall be recorded (total from startup to the relevant month if operated less than 12 months).

PSD VOC Synthetic Minor Limitation

See Section D, Specific Record Keeping Requirements.

PSD Particulate Matter Synthetic Minor Limitation

See Section D, Specific Record Keeping Requirements.

Specific Reporting Requirements:

Deviations from permit requirements (including emissions in excess of permit limits from startups, shutdowns, and malfunctions) shall be reported in accordance with Section F #6 of this permit.

401 KAR 59:190

The following is required in accordance with Section F #5 of this permit as part of compliance demonstration for Emission Limitation #1.

1. Minimum catalyst inlet temperature for each curing zone shall be reported for each six month period.

2. Maximum catalyst outlet temperature for each curing zone shall be reported for each six month period.

3. Regenerated catalyst activity shall be reported for each curing zone if regeneration results are determined during the six month period.

4. All observations of insufficient capture for each application area shall be reported for the six month period (report none if all capture observations are adequate).

5. The maximum weight percentage of VOCs emitted shall be reported for each line during the six month period.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Specific Reporting Requirements (Continued):

Self-imposed **limits to preclude applicability of 40 CFR 63 Subpart B** require the following to be reported.

6. The amount of each individual HAP emitted (in lbs or tons) for each month in the six month period shall be reported.

7. The cumulative amount of each individual HAP emitted (in lbs or tons) for each 12 consecutive month period concluded in the six month period shall be reported. If the units have not been operated for 12 months, note the total of each individual HAP up to the end of each month and the number of months from initial startup of the first operating unit.

PSD VOC Synthetic Minor Limitation

See Section D, Specific Reporting Requirements.

PSD Particulate Matter Synthetic Minor Limitation

See Section D, Specific Reporting Requirements.

Specific Control Equipment Operating Conditions:

Catalytic oxidation systems are contained inside of the enameling ovens. Refer to Operating Limitations #1 - #4 for control equipment operating conditions.

Alternate Operating Scenarios:

N/A

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

EP11 (EE-01) This emission point is an Ultra Fine Enameling Magnet Wire Machine.

Copper wire enters the machine, is drawn through an applicator and dies so that insulation is applied, passes through a curing zone and a cooling zone (in this order), either returns to the applicator or continues to the winding portion of the machine (depending on the number of coats desired and applied), and finally is wound for shipment.

EE-01 consists of 2 lines or heads where only 1 wire (2 total wires) may make multiple passes through the head to produce insulated wire.

The machine is designed to apply, cure, and cool the wire on a plane that is roughly horizontal to the facility's floor.

Catalysts estimated to have a 98% VOC control efficiency are utilized in each curing zone to reduce emissions and generate heat for the process.

Electric heaters are utilized to generate any additional heat required in the curing zones.

EE-01 utilizes catalysts only in the curing zones (there is no additional catalyst as with the other ultra fine enameling machines).

EE-01 has a maximum throughput rate of 229 m/min for 0.07 mm diameter wire.

Wires with smaller diameters will have higher maximum throughput rates on all of these machines.

The heads of the machine are exhausted to the ambient air through a single stack.

EE-01 construction commenced: November 1995.

APPLICABLE REGULATIONS:

Regulation **401 KAR 59:190**, New insulation of magnet wire operations, applies to each affected facility part of a major source in a county designated attainment commenced on or after June 24, 1992.

Regulation **401 KAR 59:010**, New process operations applicable to each affected facility associated with a process operation which is not subject to another emission standard with respect to particulates in Chapter 59 of 401 KAR commenced on or after July 2, 1975.

Operating Limitations:

401 KAR 59:190

The following limits shall apply to assure compliance with Emission Limitation #1.

1. Each curing zone shall be operated such that the minimum inlet temperature to the catalyst is at least 626° F.
2. Each curing zone shall be operated such that the maximum outlet temperature from the catalyst is no more than 1200° F.
3. Each head shall be operated only if each of the catalysts used in the head has been operated less than 6,000 hours from initial installation, regeneration by a catalyst reactivation service vendor, or catalyst replacement.
4. Air flow near the applicators shall be into the curing zones.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Operating Limitations (Continued):

401 KAR 59:190

Compliance Demonstration Method:

Initially this may be demonstrated quantitatively or qualitatively. Quantitative methods such as Method 204 will demonstrate compliance if less than 5% of the VOCs input are exhausted through temporary total enclosures surrounding the applicators. Qualitative demonstration is much more difficult to define but the degree of control is intended to be equivalent to a 5% or less loss.

Quantitative measurement of line capture can be accomplished by measuring the VOCs input at the applicator, building temporary total enclosures around the applicator portions of a head, assuming 100% of the VOC emissions exit through the curing zone stacks or the temporary total enclosures, and performing tests to determine VOC emissions from the curing zone stacks and the temporary total enclosures.

Qualitative demonstration can be accomplished if solvent odors are minimal around each machine and smoke from a smoke tube is drawn into the curing zones. Given the odor threshold of the solvents used in the coatings and the smoke observations, capture equivalent to a 5% loss will be assumed. However, care should be exercised when observing smoke being drawn into the curing zones. If possible, smoke should be puffed around the perimeter of the applicators or the openings in the enclosures surrounding the applicators (ignoring holes smaller than 10 in^2), smoke should not linger for more than a few seconds, and nearly all of the smoke should enter the curing zones.

Subsequent demonstration is intended to be done by the following methods for each batch of wires ran on each head but an equivalent method approved by the division may be acceptable. By measuring air velocity into the curing zones during initial demonstration, ongoing compliance can be accomplished through measurement of air velocity at the same locations as air velocity measurements during initial compliance. If all air velocities are > 0.90 x the initial air velocity measurements, capture can be demonstrated to be equivalent to the initial demonstration through documentation of the air velocity measurements for each batch of wires ran on each head. Alternatively, the qualitative initial demonstration above may be performed and documented for each batch of wires ran on each head.

401 KAR 59:010

The following limit shall apply to assure compliance with Emission Limitations #2 and #3.

5. Machines shall be operated and maintained consistent with good air pollution control practices.

PSD VOC Synthetic Minor Limitation

See Section D, Operating Limitation #1.

PSD Particulate Matter Synthetic Minor Limitation

See Section D, Operating Limitation #1.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Limitations:

401 KAR 59:190

1. Section 3 limits VOC discharge into the atmosphere to a maximum of 15% by weight of the total VOCs input into each coating line or head (including mixing and cleanup).

Compliance Demonstration Method:

Total VOCs input into each line over a 24-hour period shall be controlled so that no more than 15% by weight is emitted into the atmosphere. Use the following equations to demonstrate weight percent of VOCs emitted.

Weight percentage of VOCs emitted = VOC emitted / VOC input

Where:

VOC input = S (lbs of coating input to the line x VOC weight % of coating)
+ S (lbs of solvent input to the line x VOC weight % of solvent)
+ S (lbs of cleaning solution used for the line x VOC weight % of cleaning solution)

VOC emitted = (100% - line capture of VOCs x line control device destruction efficiency)
x **[**S (lbs of coating input to the line x VOC weight % of coating)
+ S (lbs of solvent input to the line x VOC weight % of solvent)**]**
+ (100% - cleaning room capture of VOCs x cleaning room control device destruction efficiency)
x S (lbs of cleaning solution used for the line x VOC weight % of cleaning solution)

Line capture of VOCs is either assumed to be 95% when Operating Limitation #4 is demonstrated qualitatively or as determined through quantitative measurements.

Line control device destruction efficiency has initially been assumed to be 98%. Once tested, initially assumed destruction efficiency shall be replaced by the results of the testing.

Cleaning room capture of VOCs has been assumed to be 100%.

Cleaning room control device destruction efficiency is assumed to be 0.0% unless tested.

And,

Lbs of cleaning solution used for the line = total lbs of cleaning solution used
x **[**S (lbs of coating input to the line x VOC weight % of coating)
+ S (lbs of solvent input to the line x VOC weight % of solvent)**]**
/ **[**S (lbs of coating input to all lines x VOC weight % of coating)
+ S (lbs of solvent input to all lines x VOC weight % of solvent)**]**.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Limitations (Continued):

401 KAR 59:010

2. Section 3(1) limits visible emissions from each stack to less than 20% opacity.

3. Section 3(2) limits emissions of particulate matter from each stack to a maximum of 2.34 lbs/hr.

Compliance Demonstration Method:

If deemed necessary, the Cabinet shall require testing in accordance with 40 CFR 60 Appendix A, Methods 9 and 5, respectively. Otherwise, compliance with Operating Limitation #5 may be used to demonstrate compliance.

PSD VOC Synthetic Minor Limitation

See Section D, Emission Limitation #1.

PSD Particulate Matter Synthetic Minor Limitation

See Section D, Emission Limitation #1.

Testing Requirements:

401 KAR 59:190

The following requirements shall apply as part of compliance demonstration with Emission Limitation #1. Additionally, the testing shall also be performed at or near (within 10%) the normal operation maximum gas space velocity.

1. Catalytic destruction efficiency for one of the curing zones shall be demonstrated through stack testing prior to regeneration and shall be within 300 operating hours of the scheduled regeneration unless one of the other EE machines is tested to determine control efficiency prior to the combined stack catalyst.

2. Testing described in Testing Requirement #1 shall be repeated within 3 years unless the destruction efficiency data is obtained from one of the other EE machines, as described in Testing Requirement #1. Alternatively, testing shall be repeated within 5 years if the following conditions are satisfied:

- **a.** Regenerated catalyst activity meets or exceeds the reported activity stack tested previously;
- **b.** Stack testing has always indicated that compliance demonstration with Emission Limitation #1 was achieved at the relevant activity levels; and
- **c.** The permittee notifies the division that such is the case 90 days prior to the 3 year anniversary of the most recent test.

3. If any of the catalytic destruction efficiency testing described in Testing Requirements #1 and #2 fails to demonstrate 90% destruction efficiency, a quantitative measurement of capture efficiency shall be performed as described in the compliance demonstration for Operating Limitation #4 to demonstrate compliance with Emission Limitation #1.

Note: Results will not include emissions from mixing or emissions that result after the curing zones, however, these emission sources are believed to be negligible.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Specific Monitoring Requirements:

401 KAR 59:190

The following is required as part of compliance demonstration for Operating Limitations #1 through #4.

1. Inlet temperature to the each catalyst shall be monitored continuously when in operation.

2. Outlet temperature from each catalyst shall be monitored continuously when in operation.

3. Hours of operation for each line shall be monitored daily.

4. Monitoring described in the compliance demonstration method for Operating Limitation #4 shall be performed for each batch of wires ran on each head.

Specific Record Keeping Requirements:

401 KAR 59:190

The following is required in accordance with Section F #2 of this permit by Section 4(8) of 401 KAR 59:190 or as part of compliance demonstration for Operating Limitations #1 through #4 and Emission Limitation #1.

1. Inlet temperature to each catalyst shall be recorded at least once per 8-hour shift and if a batch of wires is ran in a shorter period of time, inlet temperature to each catalyst shall be recorded during the time the batch is processed [see 401 KAR 59:190 Section 4(8)(g) for regulation citation].

2. Outlet temperature from each catalyst shall be recorded at least once per 8-hour shift and if a batch of wires is ran in a shorter period of time, outlet temperature from each catalyst shall be recorded during the time the batch is processed [see 401 KAR 59:190 Section 4(8)(g) for regulation citation].

3. Hours of operation prior to catalyst regeneration shall be recorded for each line.

4. All observations resulting from Specific Monitoring Requirement #4 shall be recorded and include a description of the monitoring, equipment used, location relative to the applicators of measurements or smoke, and any qualitative or quantitative measurements taken.

5. All results of Testing Requirements shall be recorded.

6. The regenerated catalyst activity of each curing zone shall be noted using reported performance characteristics furnished by the reactivation service vendor and tracked through serial numbers or other definitive means.

7. Daily records of the applicable administrative regulation number, application method, and substrate type [see 401 KAR 59:190 Sections 4(8)(a) and (b) for regulation citation].

8. The amount and type of coating or solvent (including exempt compounds) used at each point of application shall be recorded daily [see 401 KAR 59:190 Section 4(8)(c) for regulation citation].

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Specific Record Keeping Requirements (Continued):

401 KAR 59:190

9. The VOC content of each coating or solvent shall be recorded daily [see 401 KAR 59:190 Section 4(8)(d) for regulation citation].

10. The date each coating or solvent is applied shall be recorded daily [see 401 KAR 59:190 Section 4(8)(e) for regulation citation].

11. The amount of surface preparation, cleanup, or washup solvent (including exempt compounds) used and the VOC content of each shall be recorded daily [see 401 KAR 59:190 Section 4(8)(f) for regulation citation].

12. The lbs of cleaning solution used for each line shall be calculated and recorded daily.

13. The weight percentage of VOCs emitted shall be calculated and recorded daily.

401 KAR 59:010

The following is required as part of compliance demonstration for Emission Limitations #2 and #3.

14. All maintenance on the above referenced machines shall be recorded.

PSD VOC Synthetic Minor Limitation

See Section D, Specific Record Keeping Requirements.

PSD Particulate Matter Synthetic Minor Limitation

See Section D, Specific Record Keeping Requirements.

Specific Reporting Requirements:

Deviations from permit requirements (including emissions in excess of permit limits from startups, shutdowns, and malfunctions) shall be reported in accordance with Section F #6 of this permit. The following is required in accordance with Section F #5 of this permit as part of compliance demonstration for Emission Limitation #1.

1. Minimum catalyst inlet temperature for each curing zone shall be reported for each six month period.

2. Maximum catalyst outlet temperature for each curing zone shall be reported for each six month period.

3. Regenerated catalyst activity shall be reported for each curing zone if regeneration results are determined during the six month period.

4. All observations of insufficient capture for each application area shall be reported for the six month period (report none if all capture observations are adequate).

5. The maximum weight percentage of VOCs emitted shall be reported for each line during the six month period.

PSD VOC Synthetic Minor Limitation

See Section D, Specific Reporting Requirements.

PSD Particulate Matter Synthetic Minor Limitation

See Section D, Specific Reporting Requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Specific Control Equipment Operating Conditions:

Catalytic oxidation systems are contained inside of the enameling ovens. Refer to Operating Limitations #1 - #4 for control equipment operating conditions.

Alternate Operating Scenarios:

N/A

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

EP 18 (EH-06) Fine Enameling Magnet Wire Machine.

Copper wire enters **EH-06** at the base coat section, is drawn through an applicator and dies so that insulation is applied, passes through a curing zone and a cooling zone (in this order), either returns to the applicator or continues to the top coat section (depending on the number of base coats desired and applied), in the top coat section is drawn through an applicator and dies so that a different coating of insulation is applied, passes through a curing zone and a cooling zone, either returns to the applicator or continues to the winding portion of the machine (depending on the number of top coats desired and applied), and finally is wound for shipment.

Each machine consists of 4 lines or heads where 5 wires (20 total wires on each machine) may make multiple passes through the head to produce insulated wire. A base coat applicator and a top coat applicator section are present in each head.

The machines are designed to apply, cure, and cool the wire on a plane that is roughly horizontal to the facility's floor.

Catalysts are utilized in each curing zone to reduce emissions and generate heat (see Emission Limitation #1 Compliance Demonstration Method for emission reduction estimates).

Electric heaters are utilized to generate any additional heat required in the curing zones.

EH-06 has a design throughput rate of 152 m/min for 0.5 mm diameter wire.

Curing zones of each head of each machine are exhausted to the ambient air through stack.

EH-06 construction commenced: Projected in October 2002.

APPLICABLE REGULATIONS:

Regulation **401 KAR 59:190**, New insulation of magnet wire operations, applies to each affected facility part of a major source in a county designated attainment commenced on or after June 24, 1992.

Regulation **401 KAR 59:010**, New process operations.

Operating Limitations:

401 KAR 59:190

The following limits shall apply to assure compliance with Emission Limitation #1.

1. Each curing zone shall be operated with a minimum inlet temperature to the catalyst of 626° F(three hour block average).
2. Each curing zone shall be operated with a maximum outlet temperature from the catalyst is no more than 1200° F(three hour block average).
3. Each head shall be operated less than 6,000 hours from initial installation, regeneration by a catalyst reactivation service vendor, or catalyst replacement.
4. Air flow near the applicators shall be into the curing zones.

REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Operating Limitations (continued):

Compliance Demonstration Method:

Source may demonstrate compliance quantitatively or qualitatively. Quantitative methods such as Method 204 will demonstrate compliance if less than 5% of the VOC input is exhausted through temporary total enclosures surrounding the applicators. Qualitative demonstration is much more difficult to define but the degree of control is intended to be equivalent to a 5% or less loss.

Quantitative measurement of line capture can be accomplished by measuring the VOCs input at the applicator, building temporary total enclosures around the applicator portions of a head, assuming 100% of the VOC emissions exit through the curing zone stacks or the temporary total enclosures, and performing tests to determine VOC emissions from the curing zone stacks and the temporary total enclosures.

Qualitative demonstration can be accomplished if solvent odors are minimal around each applicator and smoke from a smoke tube is drawn into the curing zones. Given the odor threshold of the solvents used in the coatings and the smoke observations, capture equivalent to a 5% loss will be assumed. However, care should be exercised when observing smoke being drawn into the curing zones. If possible, smoke should be puffed around the perimeter of the applicators or the openings in the enclosures surrounding the applicators (ignoring holes smaller than 10 in^2), smoke should not linger for more than a few seconds, and nearly all of the smoke should enter the curing zones.

Subsequent demonstration shall be done by the following methods for each batch of wires ran on each head but an equivalent method approved by the division may be acceptable. By measuring air velocity into the curing zones during initial demonstration, ongoing compliance can be accomplished through measurement of air velocity at the same locations as air velocity measurements during initial compliance. If all air velocities are > 0.90 x the initial air velocity measurements, capture can be demonstrated to be equivalent to the initial demonstration through documentation of the air velocity measurements for each batch of wires ran on each head. Alternatively, the qualitative initial demonstration above may be performed and documented for each batch of wires ran on each head.

The following limit shall apply to assure compliance with Emission Limitations #2 and #3.

5. Machines shall be operated and maintained consistent with good air pollution control practices.

The following self-imposed **limit** shall apply **to preclude applicability of 40 CFR 63, Subpart B**.

6. S **[**(lbs of each coating input to each line at the above referenced machines x Individual HAP weight % of coating + lbs of each solvent input to each line at the above referenced machines x Individual HAP weight % of solvent)**]** - S **[**(lbs of each coating input to each line at the above referenced machines x Individual HAP weight

REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Operating Limitations (continued):

% of coating + lbs of each solvent input to each line at the above referenced machines x Individual HAP weight % of solvent) x line capture of VOCs x line control device destruction efficiency**]** + Individual HAP content in cleaning solutions utilized for the above referenced machines during any consecutive 12 month period shall not exceed 18,000 pounds (See the compliance demonstration for Emission Limitation #1 for clarification of terms in this limit.)

PSD VOC Synthetic Minor Limitation
See Section D, Operating Limitation #1.
PSD Particulate Matter Synthetic Minor Limitation
See Section D, Operating Limitation #1.

Emission Limitations:

401 KAR 59:190

1. Section 3 limits VOC discharge into the atmosphere to a maximum of 15% by weight of the total VOCs input into each coating line or head (including mixing and cleanup).

Compliance Demonstration Method for EH-06:
Total VOCs input into each line over a 24-hour period shall be controlled so that no more than 15% by weight is emitted into the atmosphere. Use the following equations to demonstrate weight percent of VOCs emitted.

Weight percentage of VOCs emitted = VOC emitted / VOC input

Where:

VOC input = S (lbs of coating input to the line x VOC weight % of coating)
+ S (lbs of solvent input to the line x VOC weight % of solvent)
+ S (lbs of cleaning solution used for the line x VOC weight % of cleaning solution)

VOC emitted = (100% - line capture of base coat section VOCs
x line base coat section control device destruction efficiency)
x **[**S (lbs of coating input to the base coat section of the line x VOC weight % of coating)
+ S (lbs of solvent input to the base coat section of the line x VOC weight % of solvent)**]**
+ (100% - line capture of top coat section VOCs
x line top coat section control device destruction efficiency)
x **[**S (lbs of coating input to the top coat section of the line x VOC weight % of coating)
+ S (lbs of solvent input to the top coat section of the line x VOC weight % of solvent)**]**
+ (100% - cleaning room capture of VOCs x cleaning room control device destruction efficiency)
x S (lbs of cleaning solution used for the line x VOC weight % of cleaning solution)

Line capture of base coat and top coat VOCs is either assumed to be 95% when Operating Limitation #4 is demonstrated qualitatively or as determined through quantitative measurements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE

REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Limitations (continued):

Line base coat section control device destruction efficiency has been tested at EH-05 and assuming 95% capture efficiency, destruction efficiency for the base coat section of EH-05 was demonstrated to be 99.8%. Assuming that regenerated catalyst activity is always equal or lower for future testing, up to date test results shall be used in the above emission calculation even if the testing isn't done on the top coat section because of the similarity in the sections. EH-06 will be tested per **Testing Requirement** of this section.

Line top coat section control device destruction efficiency has been tested at EH-05 and assuming 95% capture efficiency, destruction efficiency for the top coat section of EH-05 was demonstrated to be 99.3% (see the statement of basis for raw data used in destruction efficiency determination or future recalculations without an assumed capture efficiency). Assuming that regenerated catalyst activity is always equal or lower for future testing, up to date test results shall be used in the above emission calculation even if the testing isn't done on the base coat section because of the similarity in the sections.

Cleaning room capture of VOCs has been assumed to be 100%.

Cleaning room control device destruction efficiency is assumed to be 0.0% unless tested.

Compliance Demonstration Method for EH-06:

And,

Lbs of cleaning solution used for the line = total lbs of cleaning solution used
x **[**S (lbs of coating input to the line x VOC weight % of coating)
+ S (lbs of solvent input to the line x VOC weight % of solvent)**]**
/ **[**S (lbs of coating input to all lines x VOC weight % of coating)
+ S (lbs of solvent input to all lines x VOC weight % of solvent)**]**.

Cleaning room capture of VOCs has been assumed to be 100%.

Cleaning room control device destruction efficiency is assumed to be 0.0% unless tested.

And,

Lbs of cleaning solution used for the line = total lbs of cleaning solution used
x **[**S (lbs of coating input to the line x VOC weight % of coating)
+ S (lbs of solvent input to the line x VOC weight % of solvent)**]**
/ **[**S (lbs of coating input to all lines x VOC weight % of coating)
+ S (lbs of solvent input to all lines x VOC weight % of solvent)**]**.

Emission Limitations (continued):

2. Section 3(1) limits visible emissions from each stack to less than 20% opacity.

3. Section 3(2) limits emissions of particulate matter from each stack to a maximum of 2.34 lbs/hr.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Compliance Demonstration Method:
Upon request, permittee shall testing in accordance with 40 CFR 60 Appendix A, Methods 9 and 5, respectively. Otherwise, compliance with Operating Limitation #5 shall be used to demonstrate compliance.

The following self-imposed **limits** shall apply **to preclude applicability of 40 CFR 63, Subpart B**.

4. HAP emission at the machines EP 18 through EP 31 shall not exceed 9 tons for single and 22.5 tons for combined HAP during any consecutive 12 month period.

PSD VOC Synthetic Minor Limitation
See Section D, Emission Limitation #1.
PSD Particulate Matter Synthetic Minor Limitation
See Section D, Emission Limitation #1.

Testing Requirements:

401 KAR 59:190
See Section D, Testing Requirements for EH-06.

Specific Monitoring Requirements:

401 KAR 59:190

1. Inlet and outlet temperature to the each catalyst shall be monitored at least once every fifteen minutes when in operation.
2. Hours of operation.
3. Monitoring described in the compliance demonstration method for Operating Limitation #4 shall be performed for each batch of wires ran on each head.

Specific Record Keeping Requirements:

401 KAR 59:190

1. Inlet and outlet temperature to each catalyst shall be recorded at least once every fifteen minutes. Permittee may reduce data to 3-hour block averages.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Specific Record Keeping Requirements (continued):

2. Hours of operation prior to catalyst regeneration or replacement shall be recorded for each line.

3. All observations resulting from Specific Monitoring Requirement #4 shall be recorded and include a description of the monitoring, equipment used, location relative to the applicators of measurements or smoke, and any qualitative or quantitative measurements taken.

4. All results of Testing Requirements shall be recorded.

5. The regenerated catalyst activity of each curing zone shall be noted using reported performance characteristics furnished by the reactivation service vendor and tracked through serial numbers or other definitive means.

6. Daily records of the applicable administrative regulation number, application method, and substrate type [see 401 KAR 59:190 Sections 4(8)(a) and (b) for regulation citation].

7. The amount and type of coating or solvent (including exempt compounds) used at each point of application shall be recorded daily[see 401 KAR 59:190 Section 4(8)(c) for regulation citation].

8. The VOC content of each coating or solvent shall be recorded daily [see 401 KAR 59:190 Section 4(8)(d) for regulation citation].

9. The date each coating or solvent is applied shall be recorded daily [see 401 KAR 59:190 Section 4(8)(e) for regulation citation].

10. The amount of surface preparation, cleanup, or washup solvent (including exempt compounds) used and the VOC content of each shall be recorded daily [see 401 KAR 59:190 Section 4(8)(f) for regulation citation].

11. The lbs of cleaning solution used for each line shall be calculated and recorded daily.

12. The weight percentage of VOCs emitted shall be calculated and recorded daily.

The following is required as part of compliance demonstration for Emission Limitations #2 and #3.

13. All maintenance on the above referenced machines shall be recorded.

PSD VOC Synthetic Minor Limitation

See Section D, Specific Record Keeping Requirements.

PSD Particulate Matter Synthetic Minor Limitation

See Section D, Specific Record Keeping Requirements.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Specific Reporting Requirements:

Deviations from permit requirements (including emissions in excess of permit limits from startups, shutdowns, and malfunctions) shall be reported in accordance with Section F #6 of this permit.

401 KAR 59:190

The following is required in accordance with Section F #5 of this permit as part of compliance demonstration for Emission Limitation #1.

1. Excursions from the minimum catalyst inlet temperature for each curing zone shall be reported.
2. Excursions from maximum catalyst outlet temperature for each curing zone shall be reported for each six month period.
3. Regenerated catalyst activity shall be reported for each curing zone if regeneration results are determined during the six month period.
4. All observations of insufficient capture for each application area shall be reported for the six month period (report none if all capture observations are adequate).
5. The maximum weight percentage of VOCs emitted shall be reported for each line during the six month period.

PSD VOC Synthetic Minor Limitation

See Section D, Specific Reporting Requirements.

PSD Particulate Matter Synthetic Minor Limitation

See Section D, Specific Reporting Requirements.

Specific Control Equipment Operating Conditions:

Refer to Operating Limitations #1 - #4 for control equipment operating conditions.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

EP 19, EP 20 EP 21, EP 22, EP 23, EP 24, EP 25, EP 26, EP 27, EP 28, EP 29, EP 30 and EP 31 (EE-08, EE-09, EE-10, EE-11, EE-12, EE-13, EE-14, EE-15, EE-16, EE-17, EE-18, EE-19 and EE-20)

These emission points are Ultra Fine Enameling Magnet Wire Machine.

Copper wire enters each of these machines, is drawn through an applicator and dies so that insulation is applied, passes through a curing zone and a cooling zone (in this order), either returns to the applicator or continues to the winding portion of the machine (depending on the number of coats desired and applied), and finally is wound for shipment.

Each machine consists of 4 lines or heads where only 1 wire (4 total wires) may make multiple passes through the head to produce insulated wire.

The machines apply, cure, and cool the wire on a plane that is roughly horizontal to the facility's floor.

Catalysts estimated to have a 98% VOC control efficiency are utilized in each curing zone to reduce emissions and generate heat for the process.

Electric heaters are utilized to generate any additional heat required in the curing zones.

An additional catalyst is utilized in the combined stack of the 4 heads to additionally reduce emissions.

Each machine has a design throughput rate of 458 m/min for 0.07 mm diameter wire.

Wires with smaller diameters will have higher maximum throughput rates on all of these machines.

The 4 heads of each machine are exhausted to the ambient air through a single stack.

EE-08 construction commenced(est):	November 2002.
EE-09 construction commenced(est):	November 2002.
EE-10 construction commenced(est):	May 2003.
EE-11 construction commenced(est):	May 2003.
EE-12 construction commenced(est):	May 2003.
EE-13 construction commenced(est):	May 2003.
EE-14 construction commenced(est):	May 2003.
EE-15 construction commenced(est):	May 2003.
EE-16 construction commenced(est):	May 2003.
EE-17 construction commenced(est):	May 2004.
EE-18 construction commenced(est):	May 2004.
EE-19 construction commenced(est):	May 2004.
EE-20 construction commenced(est):	May 2004.

APPLICABLE REGULATIONS:

Regulation **401 KAR 59:190**, New insulation of magnet wire operations, applies to each affected facility part of a major source in a county designated attainment commenced on or after June 24, 1992.

Regulation **401 KAR 59:010**, New process operations

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Operating Limitations:

401 KAR 59:190

The following limits shall apply to assure compliance with Emission Limitation #1.

1. Each curing zone shall be operated with a minimum inlet temperature to the catalyst of 626° F (three hour block average).

2. Each curing zone shall be operated with a maximum outlet temperature from the catalyst is no more than 1200° F(three hour block average).

3. Each head shall be operated less than 6,000 hours from initial installation, regeneration by a catalyst reactivation service vendor, or catalyst replacement.

4. Air flow near the applicators shall be into the curing zones.

Compliance Demonstration Method:

Initially this may be demonstrated quantitatively or qualitatively. Quantitative methods such as Method 204 will demonstrate compliance if less than 5% of the VOCs input are exhausted through temporary total enclosures surrounding the applicators. Qualitative demonstration is much more difficult to define but the degree of control is intended to be equivalent to a 5% or less loss.

Quantitative measurement of line capture can be accomplished by measuring the VOCs input at the applicator, building temporary total enclosures around the applicator portions of a head, assuming 100% of the VOC emissions exit through the curing zone stacks or the temporary total enclosures, and performing tests to determine VOC emissions from the curing zone stacks and the temporary total enclosures.

Qualitative demonstration can be accomplished if solvent odors are minimal around each machine and smoke from a smoke tube is drawn into the curing zones. Given the odor threshold of the solvents used in the coatings and the smoke observations, capture equivalent to a 5% loss will be assumed. However, care should be exercised when observing smoke being drawn into the curing zones. If possible, smoke should be puffed around the perimeter of the applicators or the openings in the enclosures surrounding the applicators (ignoring holes smaller than 10 in^2), smoke should not linger for more than a few seconds, and nearly all of the smoke should enter the curing zones.

Subsequent demonstration is intended to be done by the following methods for each batch of wires ran on each head but an equivalent method approved by the division may be acceptable. By measuring air velocity into the curing zones during initial demonstration, ongoing compliance can be accomplished through measurement of air velocity at the same locations as air velocity measurements during initial compliance. If all air velocities are > 0.90 x the initial air velocity measurements, capture can be demonstrated to be equivalent to the initial demonstration through documentation of the air velocity measurements for each batch of wires ran on each head. Alternatively, the qualitative initial demonstration above may be performed and documented for each batch of wires ran on each head.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Operating Limitations (continued):

401 KAR 59:010

The following limit shall apply to assure compliance with Emission Limitations #2 and #3.

5. Machines shall be operated and maintained consistent with good air pollution control practices.

The following self-imposed **limit** shall apply **to preclude applicability of 40 CFR 63, Subpart B**.

6. S **[**(lbs of each coating input to each line at the above referenced machines x Individual HAP weight % of coating + lbs of each solvent input to each line at the above referenced machines x Individual HAP weight % of solvent)**]** - S **[**(lbs of each coating input to each line at the above referenced machines x Individual HAP weight % of coating + lbs of each solvent input to each line at the above referenced machines x Individual HAP weight % of solvent) x line capture of VOCs x line control device destruction efficiency**]** + Individual HAP content in cleaning solutions utilized for the above referenced machines during any consecutive 12 month period shall not exceed 18,000 lbs. (See the compliance demonstration for Emission Limitation #1 for clarification of terms in this limit.)

PSD VOC Synthetic Minor Limitation

See Section D, Operating Limitation #1.

PSD Particulate Matter Synthetic Minor Limitation

See Section D, Operating Limitation #1.

Emission Limitations:

401 KAR 59:190

1. Section 3 limits VOC discharge into the atmosphere to a maximum of 15% by weight of the total VOCs input into each coating line or head (including mixing and cleanup).

Compliance Demonstration Method:

Total VOCs input into each line over a 24-hour period shall be controlled so that no more than 15% by weight is emitted into the atmosphere. Use the following equations to demonstrate weight percent of VOCs emitted.

Weight percentage of VOCs emitted = VOC emitted / VOC input

Where:

VOC input = S (lbs of coating input to the line x VOC weight % of coating)
+ S (lbs of solvent input to the line x VOC weight % of solvent)
+ S (lbs of cleaning solution used for the line x VOC weight % of cleaning solution)

VOC emitted = (100% - line capture of VOCs x line control device destruction efficiency)
x **[**S (lbs of coating input to the line x VOC weight % of coating)
+ S (lbs of solvent input to the line x VOC weight % of solvent)**]**

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

+ (100% - cleaning room capture of VOCs x cleaning room control device destruction efficiency)
x S (lbs of cleaning solution used for the line x VOC weight % of cleaning solution)

Line capture of VOCs is either assumed to be 95% when Operating Limitation #4 is demonstrated qualitatively or as determined through quantitative measurements.

Line control device destruction efficiency has initially been assumed to be 98%. Once tested, initially assumed destruction efficiency shall be replaced by the results of the testing.

Cleaning room capture of VOCs has been assumed to be 100%.

Cleaning room control device destruction efficiency is assumed to be 0.0% unless tested. And,

Lbs of cleaning solution used for the line = total lbs of cleaning solution used
x **[**S (lbs of coating input to the line x VOC weight % of coating)
+ S (lbs of solvent input to the line x VOC weight % of solvent)**]**
/ **[**S (lbs of coating input to all lines x VOC weight % of coating)
+ S (lbs of solvent input to all lines x VOC weight % of solvent)**]**.

2. Section 3(1) limits visible emissions from each stack to less than 20% opacity.

3. Section 3(2) limits emissions of particulate matter from each stack to a maximum of 2.34 lbs/hr.

Compliance Demonstration Method:
If deemed necessary, the Cabinet shall require testing in accordance with 40 CFR 60 Appendix A, Methods 9 and 5, respectively. Otherwise, compliance with Operating Limitation #5 may be used to demonstrate compliance.

The following self-imposed **limits** shall apply **to preclude applicability of 40 CFR 63, Subpart B**.

4. HAP emission at the machines EP 18 through EP 31 shall not exceed 9 tons for single and HAP emission shall not exceed 22.5 tons for combined HAP during any consecutive 12 month period.

PSD VOC Synthetic Minor Limitation
See Section D, Emission Limitation #1.
PSD Particulate Matter Synthetic Minor Limitation
See Section D, Emission Limitation #1.

Testing Requirements:

401 KAR 59:190
The following requirements shall apply as part of compliance demonstration with Emission Limitation #1. Additionally, the testing shall also be performed at or near (within 10%) the normal operation maximum gas space velocity.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Testing Requirements(continued):

1. Catalytic destruction efficiency for one of the curing zones shall be demonstrated through stack testing prior to regeneration and shall be within 300 operating hours of the scheduled regeneration unless testing is performed as described for EE-01. If control efficiency is determined at the stack level, input from all four heads shall be utilized to confirm that the combined stack catalyst is capable of functioning at a relatively high VOC throughput rate.
2. Testing described in Testing Requirement #1 shall be repeated within 3 years. Alternatively, testing shall be repeated within 5 years if the following conditions are satisfied:
   a. Regenerated catalyst activity meets or exceeds the reported activity stack tested previously;
   b. Stack testing has always indicated that compliance demonstration with Emission Limitation #1 was achieved at the relevant activity levels; and
   c. The permittee notifies the division that such is the case 90 days prior to the 3 year anniversary of the most recent test.
3. If any of the catalytic destruction efficiency testing described in Testing Requirements #1 and #2 fails to demonstrate 90% destruction efficiency, a quantitative measurement of capture efficiency shall be performed as described in the compliance demonstration for Operating Limitation #4 to demonstrate compliance with Emission Limitation #1.

Note: Results will not include emissions from mixing or emissions that result after the curing zones, however, these emission sources are believed to be negligible.

Specific Monitoring Requirements:

401 KAR 59:190

1. Inlet and outlet temperature to the each catalyst shall be monitored when in operation.
2. Hours of operation.
3. Monitoring described in the compliance demonstration method for Operating Limitation #4 shall be performed for each batch of wires ran on each head.

Specific Record Keeping Requirements:

401 KAR 59:190

The following is required in accordance with Section F #2 of this permit by Section 4(8) of 401 KAR 59:190 or as part of compliance demonstration for Operating Limitations #1 through #4 and Emission Limitation #1.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Specific Record Keeping Requirements(continued):

1. Inlet and outlet temperature to each catalyst shall be recorded at least once every fifteen minutes. Permittee may reduce data to 3-hour block averages.
2. Hours of operation prior to catalyst regeneration shall be recorded for each line.
3. All observations resulting from Specific Monitoring Requirement #4 shall be recorded and include a description of the monitoring, equipment used, location relative to the applicators of measurements or smoke, and any qualitative or quantitative measurements taken.
4. All results of Testing Requirements shall be recorded.
5. The regenerated catalyst activity of each curing zone shall be noted using reported performance characteristics furnished by the reactivation service vendor and tracked through serial numbers or other definitive means.
6. Daily records of the applicable administrative regulation number, application method, and substrate type [see 401 KAR 59:190 Sections 4(8)(a) and (b) for regulation citation].
7. The amount and type of coating or solvent (including exempt compounds) used at each point of application shall be recorded daily [see 401 KAR 59:190 Section 4(8)(c) for regulation citation].
8. The VOC content of each coating or solvent shall be recorded daily [see 401 KAR 59:190 Section 4(8)(d) for regulation citation].
9. The date each coating or solvent is applied shall be recorded daily [see 401 KAR 59:190 Section 4(8)(e) for regulation citation].
10. The amount of surface preparation, cleanup, or washup solvent (including exempt compounds) used and the VOC content of each shall be recorded daily [see 401 KAR 59:190 Section 4(8)(f) for regulation citation].
11. The lbs of cleaning solution used for each line shall be calculated and recorded daily.
12. The weight percentage of VOCs emitted shall be calculated and recorded daily.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Specific Record Keeping Requirements(continued):

The following is required as part of compliance demonstration for Emission Limitations #2 and #3.

PSD VOC Synthetic Minor Limitation

See Section D, Specific Record Keeping Requirements.

PSD Particulate Matter Synthetic Minor Limitation

See Section D, Specific Record Keeping Requirements.

Specific Reporting Requirements:

Deviations from permit requirements (including emissions in excess of permit limits from startups, shutdowns, and malfunctions) shall be reported in accordance with Section F #6 of this permit.

401 KAR 59:190

The following is required in accordance with Section F #5 of this permit as part of compliance demonstration for Emission Limitation #1.

1. Excursions from the minimum catalyst inlet temperature for each curing zone shall be reported for each six month period.
2. Excursions from maximum catalyst outlet temperature for each curing zone shall be reported for each six month period.
3. Regenerated catalyst activity shall be reported for each curing zone if regeneration results are determined during the six month period.
4. All observations of insufficient capture for each application area shall be reported for the six month period (report none if all capture observations are adequate).
5. The maximum weight percentage of VOCs emitted shall be reported for each line during the six month period.

PSD VOC Synthetic Minor Limitation

See Section D, Specific Reporting Requirements.

PSD Particulate Matter Synthetic Minor Limitation

See Section D, Specific Reporting Requirements.

Specific Control Equipment Operating Conditions:

Catalytic oxidation systems are contained inside of the enameling ovens. Refer to Operating Limitations #1 - #4 for control equipment operating conditions.

SECTION C - INSIGNIFICANT ACTIVITIES

The following listed activities have been determined to be insignificant activities for this source pursuant to Regulation 401 KAR 50:035, Section 5(4). While these activities are designated as insignificant the permittee must comply with the applicable regulation and some minimal level of periodic monitoring may be necessary.

	Description	Generally Applicable Regulation
1.	Wire drawing prior to enameling	None

SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS

Testing Requirements for EV-01, EV-02, EV-03, and EV-04:

401 KAR 59:190

The following testing shall apply as part of compliance demonstration with limits in Section B and shall be completed by methods referenced in 401 KAR 50:015, Section 1 or 40 CFR. These testing requirements have been included in Section D because of the similarity in the machines. The following requirements are necessary to periodically verify control device destruction efficiency.

1. Prior to August 11, 2001, catalytic VOC destruction efficiency for one of the curing zones shall be demonstrated through stack testing prior to regeneration and shall be within 300 operating hours of the scheduled regeneration. The testing shall be performed on the catalyst with the lowest activity level (as identified through catalyst reactivation service vendor reports). And, the testing shall also be performed at or near (within 10%) the normal operation maximum gas space velocity.

2. Testing described in Testing Requirement #1 shall be repeated within 3 years. Alternatively, testing shall be repeated within 5 years if the following conditions are satisfied:

- **a.** Regenerated catalyst activity meets or exceeds the reported activity stack tested previously;
- **b.** Stack testing has always indicated that compliance demonstration with Emission Limitation #1 was achieved at the relevant activity levels; and
- **c.** The permittee notifies the division that such is the case 90 days prior to the 3 year anniversary of the most recent test.

3. If any of the catalytic destruction efficiency testing described in Testing Requirements #1 and #2 fails to demonstrate 90% destruction efficiency, a quantitative measurement of capture efficiency shall be performed as described in the compliance demonstration for Operating Limitation #4 to demonstrate compliance with Emission Limitation #1.

Note: Results will not include emissions from mixing or emissions that result after the curing zones, however, these emission sources are believed to be negligible.

The following testing shall be performed to demonstrate that the source is not a PSD major source of CO.

4. Within 18 months of issuance of this permit testing shall be performed at or near (within 10%) the normal operation maximum temperature to determine CO emissions compared to resin input to an oven.

SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS (CONTINUED)

Testing Requirements for EH-01, EH-02, EH-03, EH-04, EH-05 and EH-06:

401 KAR 59:190

The following testing shall apply as part of compliance demonstration with limits in Section B and shall be completed by methods referenced in 401 KAR 50:015, Section 1 or 40 CFR. These testing requirements have been included in Section D because of the similarity in the machines. The following requirements are necessary to periodically verify control device destruction efficiency.

1. Prior to August 11, 2001, catalytic VOC destruction efficiency for one of the curing zones shall be demonstrated through stack testing prior to regeneration and shall be within 300 operating hours of the scheduled regeneration. The testing shall be performed on the catalyst with the lowest activity level (as identified through catalyst reactivation service vendor reports). And, the testing shall also be performed at or near (within 10%) the normal operation maximum gas space velocity.

2. Testing described in Testing Requirement #1 shall be repeated within 3 years. Alternatively, testing shall be repeated within 5 years if the following conditions are satisfied:

- **a.** Regenerated catalyst activity meets or exceeds the reported activity stack tested previously;
- **b.** Stack testing has always indicated that compliance demonstration with Emission Limitation #1 was achieved at the relevant activity levels; and
- **c.** The permittee notifies the division that such is the case 90 days prior to the 3 year anniversary of the most recent test.

3. If any of the catalytic destruction efficiency testing described in Testing Requirements #1 and #2 fails to demonstrate 90% destruction efficiency, a quantitative measurement of capture efficiency shall be performed as described in the compliance demonstration for Operating Limitation #4 to demonstrate compliance with Emission Limitation #1.

Note: Results will not include emissions from mixing or emissions that result after the curing zones, however, these emission sources are believed to be negligible.

SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS (CONTINUED)

Source Wide VOC Limitations

PSD Synthetic Minor Limits have voluntarily been accepted to preclude applicability of 401 KAR 51:017, Prevention of significant deterioration of air quality, requirements.

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Operating Limitations:

Source Wide VOC Synthetic Minor Limitation

1. S **[**(lbs of each coating input to each line x VOC weight % of coating + lbs of each solvent input to each line x VOC weight % of solvent)**]** - S **[**(lbs of each coating input to each line x VOC weight % of coating + lbs of each solvent input to each line x VOC weight % of solvent) x line capture of VOCs x line control device VOC destruction efficiency**]** + S (lbs of each cleaning solution used x VOC weight % of cleaning solution) during any consecutive 12 month period **shall be < or = to** 450,000 lbs / 12 consecutive month period (demonstrated monthly). (See the compliance demonstration for Emission Limitation #1 for clarification of terms in this limit.)

Emission Limitations:

Source Wide VOC Synthetic Minor Limitation

1. For any 12 consecutive month period, source wide VOC emissions shall be less than or equal to 225 tons as demonstrated on a monthly basis.

Compliance Demonstration Method:

See Operating Limitation #1 above. Use of test results, material balances, and division approved capture efficiency estimates will be required. The following shall be used during compliance demonstration with Operating Limitation #1 unless the division approves an alternative.

VOC weight % of coating	=	Determined using Method 24 from 40 CFR 60 or Certified MSDS
VOC weight % of solvent	=	Determined using Method 24 from 40 CFR 60 or Certified MSDS
Line capture of VOCs	=	If determined using qualitative method use 0.95, otherwise use results of quantitative measurements
Line control device VOC destruction efficiency	=	Determined from the most recent stack test results and manufacturer estimate if the machine type hasn't been tested (at the time of permit issuance the EV machines will use 0.938, the EH machines with base coat and top coat sections will use 0.998 and 0.993, respectively, the other EH machines will use 0.993, EE-01 will use 0.98 until testing relevant to EE-01 described in Section B is performed, and the other EE machines will use 0.98 until tested)

SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS (CONTINUED)

Emission Limitations (Continued):

Source Wide VOC Synthetic Minor Limitation

Compliance Demonstration Method (Continued):

VOC weight % of cleaning solution = Determined using Method 24 from 40 CFR 60 or Certified MSDS

Testing Requirements:

No additional testing requirements result from the Source Wide VOC Synthetic Minor Limitations.

Specific Record Keeping Requirements:

Source Wide VOC Synthetic Minor Limitations require the following to be recorded. Some of these record keeping requirements may be identical to other record keeping requirements elsewhere in this permit. This has been done to make requirements and calculations clearer. Repeated record keeping requirements do not require repeated data documentation.

1. Pounds of each coating used at each line each month.
2. Pounds of each solvent used at each line each month.
3. The VOC weight % of each coating and solvent used.
4. Pounds of each cleaning solution used at the source each month.
5. The VOC weight % of each cleaning solution used.
6. All emission test results relevant to demonstration of compliance with Operating Limitation #1.
7. The amount of VOC emitted from each line each month (as calculated using the formula in Operating Limitation #1).
8. The total amount of VOC emitted from the source each 12 consecutive month period for which data is available.

Specific Reporting Requirements:

Source Wide VOC Synthetic Minor Limitations require the following to be reported semi-annually. These reports shall be certified by a responsible official, and delivered by electronic media (such as fax or e-mail) or postmarked to the Division's Bowling Green Regional Office within thirty days following the six-month anniversary date of this permit unless the permittee requests and receives written approval from the Bowling Green Regional Office to report on January 30th and July 30th of each year. These reports may also be delivered by courier as long as the reports are stamped received as indicated above. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the documents are true, accurate, and complete.

1. Any deviations from the above synthetic minor requirements and limitations.
2. Total VOC applied at each line each month.
3. The capture efficiency and VOC destruction efficiency used in emission calculations for each line.
4. Total VOC emitted from each line each month.
5. Total cleaning solution VOC used at the source each month.

SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS (CONTINUED)

Specific Reporting Requirements (Continued):

Source Wide VOC Synthetic Minor Limitation

6. Total VOC emitted from the source each month in the reporting period.

7. Total VOC emitted from the source each 12 consecutive month period ending in the reporting period. If 12 consecutive months have not passed since issuance of this permit, the total VOC emitted up to the relevant months ending in the reporting period shall be totaled and reported with a notation of the time period being reported.

Source Wide Particulate Matter Limitations

PSD Synthetic Minor Limits have voluntarily been accepted to preclude applicability of 401 KAR 51:017, Prevention of significant deterioration of air quality, requirements. Exceedance of the major source emission level, as defined in 401 KAR 51:017 will trigger additional requirements and regulations.

Operating Limitations:

Source Wide Particulate Matter Synthetic Minor Limitation

1. S **[**(lbs of each coating input to the lines x resin weight % of coating**]** x (weight % volatilized) during any consecutive 12 month period **shall be < or = to** 450,000 lbs / 12 consecutive month period (demonstrated monthly). (See the compliance demonstration for Emission Limitation #1 for clarification of terms in this limit.)

Emission Limitations:

Source Wide Particulate Matter Synthetic Minor Limitation

1. For any 12 consecutive month period, source wide particulate matter emissions shall be less than or equal to 225 tons as demonstrated on a monthly basis.

Compliance Demonstration Method:

See Operating Limitation #1 above. Use of material balances and EPA estimate will be required unless testing is utilized. The following shall be used during compliance demonstration with Operating Limitation #1 unless the division approves an alternative.

Resin weight % of coating	=	Determined using Method 24 from 40 CFR 60 or Certified MSDS
Weight % volatilized	=	25% (based on EPA estimate) or as determined through testing

Testing Requirements:

Testing shall be conducted if required by the cabinet in accordance with Regulation 401 KAR 50:045 Section 4.

Specific Record Keeping Requirements:

Source Wide Particulate Matter Synthetic Minor Limitations require the following to be recorded. Some of these record keeping requirements may be identical to other record keeping requirements elsewhere in this permit. This has been done to make requirements and calculations clearer. Repeated record keeping requirements do not require repeated data documentation.

SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS (CONTINUED)

Specific Record Keeping Requirements (continued):

1. Pounds of each coating used in the lines each month.
2. The resin weight % of each coating.
3. Any emission test results relevant to demonstration of compliance with Operating Limitation #1.
4. The amount of particulate matter emitted from the source each month (as calculated using the formula in Operating Limitation #1).
5. The total amount of VOC emitted from the source each 12 consecutive month period for which data is available.

Specific Reporting Requirements:

Source Wide Particulate Matter Synthetic Minor Limitations

Permittee shall include the following in the semi-annual reports due on January 30th and July 30th of each year.

1. Any deviations from the above synthetic minor requirements and limitations.
2. Total resin applied at the source each month.
3. Total particulate matter emitted from the source each month.
4. Total particulate matter emitted from the source each 12 consecutive month period ending in the reporting period. If 12 consecutive months have not passed since issuance of this permit, the total particulate matter emitted up to the relevant months ending in the reporting period shall be totaled and reported with a notation of the time period being reported.

SECTION E - SOURCE CONTROL EQUIPMENT REQUIREMENTS

1. Pursuant to 401 KAR 50:055, Section 2(5), at all times, including periods of startup, shutdown and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the division which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

SECTION F - MONITORING, RECORD KEEPING, AND REPORTING REQUIREMENTS

1. When continuing compliance is demonstrated by periodic testing or instrumental monitoring, the permittee shall compile records of required monitoring information that include:
   a. Date, place as defined in this permit, and time of sampling or measurements.
   b. Analyses performance dates;
   c. Company or entity that performed analyses;
   d. Analytical techniques or methods used;
   e. Analyses results; and
   f. Operating conditions during time of sampling or measurement.
   [Material incorporated by reference by 401 KAR 52:020, Section 1b (IV)1

2. Records of all required monitoring data and support information, including calibrations, maintenance records, and original strip chart recordings, and copies of all reports required by the Division for Air Quality, shall be retained by the permittee for a period of five years and shall be made available for inspection upon request by any duly authorized representative of the Division for Air Quality. [Material incorporated by reference by 401 KAR 52:020, Sections 1b(IV) 2 and 1a(8)]

3. In accordance with the requirements of 401 KAR 52:020 Section 3(1)h the permittee shall allow authorized representatives of the Cabinet to perform the following during reasonable times:
   a. Enter upon the premises to inspect any facility, equipment (including air pollution control equipment), practice, or operation;
   b. To access and copy any records required by the permit:
   c. Inspect, at reasonable times, any facilities, equipment (including monitoring and pollution control equipment), practices, or operations required by the permit. Reasonable times are defined as during all hours of operation, during normal office hours; or during an emergency.
   d. Sample or monitor, at reasonable times, substances or parameters to assure compliance with the permit or any applicable requirements.
   e. Reasonable times are defined as during all hours of operation, during normal office hours; or during an emergency.

4. No person shall obstruct, hamper, or interfere with any Cabinet employee or authorized representative while in the process of carrying out official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.

5. Summary reports of any monitoring required by this permit shall be submitted to the Regional Office listed on the front of this permit at least every six (6) months during the life of this permit, unless otherwise stated in this permit. For emission units that were still under construction or which had not commenced operation at the end of the 6-month period covered by the report and are subject to monitoring requirements in this permit, the report shall indicate that no monitoring was performed during the previous six months because the emission unit was not in operation. [Material incorporated by reference by 401 KAR 52:020, Section 1b (V)1.]

SECTION F - MONITORING, RECORD KEEPING, AND REPORTING REQUIREMENTS (CONTINUED)

6. The semi-annual reports are due by January 30th and July 30th of each year. All reports shall be certified by a responsible official pursuant to 401 KAR 52:020 Section 23. All deviations from permit requirements shall be clearly identified in the reports.

7. In accordance with the provisions of 401 KAR 50:055, Section 1 the owner or operator shall notify the Regional Office listed on the front of this permit concerning startups, shutdowns, or malfunctions as follows:
   a. When emissions during any planned shutdowns and ensuing startups will exceed the standards notification shall be made no later than three (3) days before the planned shutdown, or immediately following the decision to shut down, if the shutdown is due to events which could not have been foreseen three (3) days before the shutdown.
   b. When emissions due to malfunctions, unplanned shutdowns and ensuing startups are or may be in excess of the standards notification shall be made as promptly as possible by telephone (or other electronic media) and shall cause written notice upon request.

8. The owner or operator shall report emission related exceedances from permit requirements including those attributed to upset conditions (other than emission exceedances covered by Section F.7. above) to the Regional Office listed on the front of this permit within 30 days. Other deviations from permit requirements shall be included in the semiannual report required by Section F.6. [Material incorporated by reference by 401 KAR 52:020, Section 1b V 3, 4.]

9. Pursuant to 401 KAR 52:020, Permits, Section 21, the permittee shall certify compliance with the terms and conditions contained in this permit, by completing and returning a Compliance Certification Form (DEP 7007CC) (or an alternative approved by the regional office) to the Regional Office listed on the front of this permit and the U.S. EPA in accordance with the following requirements:
   a. Identification of the term or condition;
   b. Compliance status of each term or condition of the permit;
   c. Whether compliance was continuous or intermittent;
   d. The method used for determining the compliance status for the source, currently and over the reporting period, and
   e. For an emissions unit that was still under construction or which has not commenced operation at the end of the 12-month period covered by the annual compliance certification, the permittee shall indicate that the unit is under construction and that compliance with any applicable requirements will be demonstrated within the timeframes specified in the permit.

SECTION F - MONITORING, RECORD KEEPING, AND REPORTING REQUIREMENTS (CONTINUED)

f. The certification shall be postmarked by January 30th of each year. Annual compliance certifications should be mailed to the following addresses:

Division for Air Quality
Bowling Green Regional Office
1508 Western Avenue
Bowling Green, KY 42104

U.S. EPA Region IV
Air Enforcement Branch
Atlanta Federal Center
61 Forsyth St.
Atlanta, GA 30303-8960

Division for Air Quality
Central Files
803 Schenkel Lane
Frankfort, KY 40601

10. In accordance with 401 KAR 52:020, Section 22, the permittee shall provide the division with all information necessary to determine its subject emissions within thirty (30) days of the date the KYEIS emission survey is mailed to the permittee.

11. Pursuant to Section VII.3 of the policy manual of the Division for Air Quality as referenced in 401 KAR 50:016, Section 1(1), results of performance test(s) required by the permit shall be submitted to the division by the source or its representative within forty-five days after the completion of the fieldwork.

SECTION G - GENERAL PROVISIONS

(a) General Compliance Requirements

1. The permittee shall comply with all conditions of this permit. Noncompliance shall be a violation of 401 KAR 52:020 and of the Clean Air Act and is grounds for enforcement action including termination, revocation and reissuance, revision or denial of a permit. [Material incorporated by reference by 401 KAR 52:020, Section 1a, 3]

2. The filing of a request by the permittee for any permit revision, revocation, reissuance, or termination, or of a notification of a planned change or anticipated noncompliance, shall not stay any permit condition. [Material incorporated by reference by 401 KAR 52:020, Section 1a, 6]

3. This permit may be revised, revoked, reopened and reissued, or terminated for cause in accordance with 401 KAR 52:020, Section 19. The permit will be reopened for cause and revised accordingly under the following circumstances:
   a. If additional requirements become applicable to the source and the remaining permit term is three (3) years or longer. In this case, the reopening shall be completed no later than eighteen (18) months after promulgation of the applicable requirement. A reopening shall not be required if compliance with the applicable requirement is not required until after the date on which the permit is due to expire, unless this permit or any of its terms and conditions have been extended pursuant to 401 KAR 52:020, Section 12;
   b. The Cabinet or the U. S. EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements;
   c. The Cabinet or the U. S. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit;

   Proceedings to reopen and reissue a permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists. Re-openings shall be made as expeditiously as practicable. Re-openings shall not be initiated before a notice of intent to reopen is provided to the source by the division, at least thirty (30) days in advance of the date the permit is to be reopened, except that the division may provide a shorter time period in the case of an emergency.

4. The permittee shall furnish information upon requested by the cabinet to determine if cause exists for modifying, revoking and reissuing, or terminating the permit; or compliance with the permit. [Material incorporated by reference by 401 KAR 52:020, Section 1a, 7,8]

5. The permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such facts or corrected information to the permitting authority. [Material incorporated by reference by 401 KAR 52:020, Section 7(1)]

SECTION G - GENERAL PROVISIONS (CONTINUED)

6. Any condition or portion of this permit which becomes suspended or is ruled invalid as a result of any legal or other action shall not invalidate any other portion or condition of this permit. [Material incorporated by reference by 401 KAR 52:020, Section 1a, 14]

7. The permittee shall not use as a defense in an enforcement action the contention that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance. [Material incorporated by reference by 401 KAR 52:020, Section 1a, 4]

8. Except for requirements identified in this permit as state-origin requirements, all terms and conditions shall be enforceable by the United States Environmental Protection Agency and citizens of the United States. [Material incorporated by reference by 401 KAR 52:020, Section 1a, 15)b]

9. This permit shall be subject to suspension if the permittee fails to pay all emissions fees within 90 days after the date of notice as specified in 401 KAR 50:038, Section 3(6). [Material incorporated by reference by 401 KAR 52:020, Section 1a, 10]

10. Nothing in this permit shall alter or affect the liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance. [401 KAR 52:020, Section 11(3)(b)]

11. This permit does not convey property rights or exclusive privileges. [Material incorporated by reference by 401 KAR 52:020, Section 1a, 9]

12. Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by the Kentucky Cabinet for Natural Resources and Environmental Protection or any other federal, state, or local agency.

13. Nothing in this permit shall alter or affect the authority of U.S. EPA to obtain information pursuant to Federal Statute 42 USC 7414, Inspections, monitoring, and entry. [401 KAR 52:020, Section 11(3)(d)].

14. Nothing in this permit shall alter or affect the authority of U.S. EPA to impose emergency orders pursuant to Federal Statute 42 USC 7603, Emergency orders. [401 KAR 52:020, Section 11(3)(a)]

15. This permit consolidates the authority of any previously issued PSD, NSR, or Synthetic minor source preconstruction permit terms and conditions for various emission units and incorporates all requirements of those existing permits into one single permit for this source

16. Pursuant to 401 KAR 52:020, Section 11, a permit shield shall not protect the owner or operator from enforcement actions for violating an applicable requirement prior to or at the time of permit issuance. Compliance with the conditions of a permit shall be considered compliance with:
    (a) Applicable requirements that are included and specifically identified in the permit and
    (b) Non-applicable requirements expressly identified in this permit.

SECTION G - GENERAL PROVISIONS (CONTINUED)

(b) Permit Expiration and Reapplication Requirements

1. This permit shall remain in effect for a fixed term of five (5) years following the original date of issue. Permit expiration shall terminate the source's right to operate unless a timely and complete renewal application has been submitted to the division at least six months prior to the expiration date of the permit. Upon a timely and complete submittal, the authorization to operate within the terms and conditions of this permit, including any permit shield, shall remain in effect beyond the expiration date, until the renewal permit is issued or denied by the division. [401 KAR 52:020, Section 12]

2. The authority to operate granted shall cease to apply if the source fails to submit additional information requested by the division after the completeness determination has been made on any application, by whatever deadline the division sets. [401 KAR 52:020 Section 8(2)]

(c) Permit Revisions

1. A minor permit revision procedure may be used for permit revisions involving the use of economic incentive, marketable permit, emission trading, and other similar approaches, to the extent that these minor permit revision procedures are explicitly provided for in the SIP or in applicable requirements and meet the relevant requirements of 401 KAR 52:020, Section 14(2).

2. This permit is not transferable by the permittee. Future owners and operators shall obtain a new permit from the Division for Air Quality. The new permit may be processed as an administrative amendment if no other change in this permit is necessary, and provided that a written agreement containing a specific date for transfer of permit responsibility coverage and liability between the current and new permittee has been submitted to the permitting authority within ten (10) days following the transfer.

(d) Construction, Start-Up, and Initial Compliance Demonstration Requirements
EP 18, EP 19, EP 20, EP 21, EP 22, EP 23, EP 24, EP 25, EP 26, EP 27, EP 28
EP 29, and EP 31.

1. Construction of process and/or air pollution control equipment authorized by this permit shall be conducted and completed only in compliance with the conditions of this permit.

2. Within thirty (30) days following commencement of construction and within fifteen (15) days following start-up and attainment of the maximum production rate specified in the permit application, or within fifteen (15) days following the issuance date of this permit, whichever is later, the permittee shall furnish to the Regional Office listed on the front of this permit in writing, with a copy to the division's Frankfort Central Office, notification of the following:
   a. The date when construction commenced.
   b. The date of start-up of the affected facilities listed in this permit.
   c. The date when the maximum production rate specified in the permit application was achieved.

3. Pursuant to 401 KAR 52:020, Section 3(2), unless construction is commenced within eighteen (18) months after the permit is issued, or begins but is discontinued for a period of eighteen (18) months or is not completed within a reasonable timeframe then the construction and operating authority granted by this permit for those affected facilities for which construction was not completed shall immediately become invalid. Upon written request, the cabinet may extend these time periods if the source shows good cause.

4. For those affected facilities for which construction is authorized by this permit, a source shall be allowed to construct with the proposed permit. Operational or final permit approval is not granted by this permit until compliance with the applicable standards specified herein has been demonstrated pursuant to 401 KAR 50:055. If compliance is not demonstrated within the prescribed timeframe provided in 401 KAR 50:055, the source shall operate thereafter only for the purpose of demonstrating compliance, unless otherwise authorized by Section I of this permit or order of the cabinet.

5. This permit shall allow time for the initial start-up, operation, and compliance demonstration of the affected facilities listed herein. However, within sixty (60) days after achieving the maximum production rate at which the affected facilities will be operated but not later than 180 days after initial start-up of such facilities, the permittee shall conduct a performance demonstration on the affected facilities in accordance with 401 KAR 50:055, General compliance requirements with testing to be performed at a later date as indicated in Section B of this permit.

6. Terms and conditions in this permit established pursuant to the construction authority of 401 KAR 51:017 or 401 KAR 51:052 shall not expire.

7. Pursuant to Section VII 2.(1) of the policy manual of the Division for Air Quality as referenced by 401 KAR 50:016, Section 1.(1), at least one month prior to the date of the required performance test, the permittee shall complete and return a Compliance Test Protocol (Form DEP 6027) to the division's Frankfort Central Office. Pursuant to 401 KAR 50:045, Section 5, the division shall be notified of the actual test date at least ten (10) days prior to the test.

(e) Acid Rain Program Requirements

If an applicable requirement of Federal Statute 42 USC 7401 through 7671q (the Clean Air Act) is more stringent than an applicable requirement promulgated pursuant to Federal Statute 42 USC 7651 through 7651o (Title IV of the Act), both provisions shall apply, and both shall be state and federally enforceable.

(f) Emergency Provisions

1. Pursuant to 401 KAR 52:020 Section 24(1), an emergency shall constitute an affirmative defense to an action brought for the noncompliance with the technology-based emission limitations if the permittee demonstrates through properly signed contemporaneous operating logs or relevant evidence that:

a. An emergency occurred and the permittee can identify the cause of the emergency;
b. The permitted facility was at the time being properly operated;
c. During an emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and
d. Pursuant to 401 KAR 52:020, 401 KAR 50:055, and KRS 224.01-400, the permittee notified the Division as promptly as possible and submitted written notice of the emergency to the Division when emission limitations are exceeded due to an emergency. The notice shall include a description of the emergency, steps taken to mitigate emissions, and corrective actions taken.
e. This requirement does not relieve the source from other local, state or federal notification requirements.

2. Emergency conditions listed in General Condition (f)1 above are in addition to any emergency or upset provision(s) contained in an applicable requirement. [401 KAR 52:020, Section 24(3)]

3. In an enforcement proceeding, the permittee seeking to establish the occurrence of an emergency shall have the burden of proof. [401 KAR 52:020, Section 24(2)]

(g) Risk Management Provisions

1. The permittee shall comply with all applicable requirements of 401 KAR Chapter 68, Chemical Accident Prevention, which incorporates by reference 40 CFR Part 68, Risk Management Plan provisions. If required, the permittee shall comply with the Risk Management Program and submit a Risk Management Plan to:

RMP Reporting Center
P.O. Box 3346
Merrifield, VA, 22116-3346

2. If requested, submit additional relevant information to the division or the U.S. EPA.

(h) Ozone depleting substances

1. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:
   a. Persons opening appliances for maintenance, service, repair, or disposal shall comply with the required practices contained in 40 CFR 82.156.
   b. Equipment used during the maintenance, service, repair, or disposal of appliances shall comply with the standards for recycling and recovery equipment contained in 40 CFR 82.158.
   c. Persons performing maintenance, service, repair, or disposal of appliances shall be certified by an approved technician certification program pursuant to 40 CFR 82.161.

SECTION G - GENERAL PROVISIONS (CONTINUED)

d. Persons disposing of small appliances, MVACs, and MVAC-like appliances (as defined at 40 CFR 82.152) shall comply with the recordkeeping requirements pursuant to 40 CFR 82.166

e. Persons owning commercial or industrial process refrigeration equipment shall comply with the leak repair requirements pursuant to 40 CFR 82.156.

f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant shall keep records of refrigerant purchased and added to such appliances pursuant to 40 CFR 82.166.

2. If the permittee performs service on motor (fleet) vehicle air conditioners containing ozone-depleting substances, the source shall comply with all applicable requirements as specified in 40 CFR 82, Subpart B, Servicing of Motor Vehicle Air Conditioners.